

Cover design by Mary Katherine Schmidt BFA,  
symbolizes life's experience culminating in the  
prudent wisdom of old age.

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## *from the Editors*

**I**n this issue of the CHEJ features an extended Research Section on the topic of Aging in Canada, compiled by our Guest Editor for the Research Section, Norah Keating. Dr. Keating along with Dr. Phyllis Johnson, Research Editor, have been working for over one year on this special section and we thank them for all their efforts. This is also the first time that the Research Section and the General Focus Articles have concentrated on the same topic... Aging in Canada. This theme was mentioned often in the questionnaires as one, about which many readers would like to have more information.

June Dutka's article, presents a review of a selection of Government publications which focus on the aged. The topics range from health and life expectancy to housing and old age security. As a Librarian, June's purpose in this article is to make the readership more aware of the vast number of resources available in libraries, on the subject of Aging.

Clothing preferences and consumer behavior of older citizens is the focus of the article by Betty G. Dillard and Betty L. Feather. The authors point out that manufacturers in Canada, Sweden, and the United States, are willing to adjust construction of their garments to fit the mature figure. Many retail outlets are not prepared, however, to stock these clothes, along side their regular wear. Perhaps as the population ages, more stylish clothing will begin to appear in the large shopping centers as retailers recognize that the majority of their clients are past middle-age.

Mary Englemann's article, "Canada's Aging Population: Implications for Policy and Practice" challenges the reader to focus on the way society will be in the coming decades, when the majority of the Canadian population will be over 50 years of age. She points out that many of these future seniors, will be well educated and not content to be inactive in areas such as education and politics.

Wanda Young and Doris Hasell present their research findings concerning housing and the older population. Their article outlines many housing suggestions and alternatives that were put forth at round table discussions, held during workshops that they conducted. Older people

now, and in the coming years, will have more flexibility and choice in their housing accommodations.

In the short years since becoming Editor, I have read every questionnaire that was returned to the National Office with the membership renewals. The number of responses is very high and this means to us, that the members are interested in helping us to produce a quality, international publication of which the profession can be proud.

We are very encouraged by the many favorable comments from the members. The themes for the 1988 Issues of the Journal were selected from these questionnaires, and likewise, the themes for 1989 came from the reader's suggestions. It is also heartening that many have submitted their names to the Book Review Editor, indicating a willingness to prepare a book review for the Journal.

We do occasionally receive comments that suggest the readers are dissatisfied with the contents of the Journal. These force us to examine whether we are tending to emphasize one area more than another. The utmost effort is taken to present all areas of Home Economics, albeit, not in every issue. However, an Editor simply solicits, edits, and compiles articles. The Journal reflects the vitality of the membership who submit ideas and articles for publication. We encourage the readership to submit manuscripts in their area of expertise or interest. The format for preparing manuscripts is printed in the Winter Issue of the Journal for member's information. Outlines for 'Profiles of a Home Economist' are available from the editorial office.

We would like to also solicit artwork for cover designs for each of the 1989 issues. Ideas and/or preliminary sketches are most welcome.

We encourage all members to attend the Annual Conference to be held this July in Guelph, Ontario. Anyone who has participated in a Home Economics Conference knows the feeling of comradery and renewed professionalism that comes with attendance at such a function. The Conference Committee has been planning for more than a year to make this event a meaningful experience for all Home Economists. □

### **Towards 2000: Un oeil sur l'an 2000: CONFERENCE/CONGRÈS '88**

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# Selected Canadian Government Publications: The Elderly

by June Dutka

## Abstract

Collections of government publications contain well-researched information of interest to educators, librarians, research personnel, and the general public. This discussion provides a selective listing of Canadian federal documents which cover a broad range of topics relating to gerontology. Unique features, scope of publications, and availability of these government reports are explained.

## Résumé

Le recueil de publications gouvernementales contiennent des renseignements bien étudiés qui intéresseront les enseignants, les bibliothécaires, le personnel affecté à la recherche et le grand public. Cette discussion offre une liste sélective des documents fédéraux canadiens couvrant une vaste gamme de sujets reliés à la gérontologie. L'auteur y examine les caractéristiques uniques, la portée des publications et la disponibilité de ces rapports gouvernementaux.

"Old age is just like childhood, youth, and middle age. It is part of the single thread that carries life through from the beginning, part of the natural progression of life. It has its challenges and difficulties just like any other part of life"

(Marshall, 1987).

Awareness of needs of the elderly and sensitivity to the plight of the very

**June Dutka** BLS, University of British Columbia, is Head of Government Publications at the Elizabeth Dafoe Library, University of Manitoba. She also has responsibility for collection development in the area of Political Studies.



old is becoming more evident through radio and television programs, advertising, and the daily newspapers. Increased research in the area of gerontology is substantially influencing the growth of published information for educators, research personnel, health care providers, and seniors in the community at large. The Canadian government publications selected for this discussion cover a broad range of topics from health care to old age security. These reports by various government agencies have been published during the last twenty years.

## Government Publications Underutilized?

The Canadian Government Publishing Centre located in Ottawa, is a very large publishing house. It annually distributes well over 5,000 documents to each of the 49 full depository libraries across Canada. The task of providing access to the information in

government publications remains a challenge to librarians in school, university, and public libraries. In a sample of four articles about the elderly recently published in the *Canadian Home Economics Journal*, it appeared that government documents were not cited often. For example, of the collective 135 references listed, only 16 were published by the government. Twelve of these documents were produced by the Canadian Ministry of Supply and Services, while two were published by the United States Government Printing Office, one by Her Majesty's Stationery Office and one by the Government of Prince Edward Island. One article alone cited 30 references with no mention of a single government publication!

## Significant Publications and Events

A better understanding of the role that the Canadian government attempts to play in assisting and acknowledging the increasing number of elderly can be best attained by identifying a number of landmark events and published reports.

- 1966 *The Final Report of the Special Committee of the Senate on Aging* (Parliament. Senate. Special Committee on Aging, 1966) studies the problems of the aged on a national scale. The statistical information used in this report is drawn from the publication entitled *Selected Statistics on the Older Population of Canada in 1961* (Dominion Bureau of Statistics, 1964).
- 1969 The National Council of Welfare was established by the Government Organization Act with its mandate to advise the Minister of

National Health and Welfare on matters pertaining to welfare.

- 1978 *Women and Aging: A Report on the Rest of Our Lives* (Advisory Council on the Status of Women, 1978) was one of the first accounts of the status of aging women in Canada. The report paints an extremely dismal picture of the situation as it was for women during the late 1970s.
- 1979 The report, *Retirement Without Tears*, (Parliament. Senate. Special Committee on Retirement Age Policies. 1979) reviews the issue of retirement taking into account demographic trends, the income of the elderly, retirement and special groups in the population. In addition to the main body of this report over 60 conclusions and recommendations on these subjects appear at the beginning of the document.
- 1980 National Advisory Council on Aging (NACA) was appointed to advise the Minister of Health and Welfare on issues of concern to older adults.
- 1982 Canada's preparations for the World Assembly on Aging produced two major documents which are worthwhile mentioning. The *Canadian Governmental Report on Aging* (Department of National Health and Welfare, 1982c) is noteworthy because it involved the federal, provincial, and territorial governments in the study of aging. Over ten tables and charts outline relevant data covering the period 1950-2025.
- The *Canadian Non-Governmental Organizations' Report on Aging in Canada* (National Advisory Council on Aging, 1982) focuses on the needs of senior citizens within society, while the previous report dwells mainly on population trends and on support systems.
- The United Nations World Assembly on Aging met in Vienna, Austria from July 26 to August 6, 1982. International attention is drawn to the impact of the world's aging populations.
- 1983 The International Vienna Plan of Action on Aging is further analyzed by Herbert Pottle in the publication *On Adding Life to Years* (Government of Canada, 1983). Canadian efforts in all areas pertaining to aging issues are discussed: health and nutrition, housing and

environment, income security and employment, family and social welfare, to name a few.

- *Moving Ahead with Aging in Canada* (National Advisory Council on Aging, 1983), summarizes in a succinct manner the work and conclusions of the above mentioned government agencies.
- 1985 *The National Advisory Council on Aging 1980-1985* (National Advisory Council on Aging, 1985), a five year report, identifies four areas of concern relating to income, health care, shelter, and communication. This report also outlines the Council's activities in advising the Minister, stimulating public discussion, and disseminating published information. NACA's publication *Expression* produced since 1984 is an excellent example of a quarterly newsletter which exchanges information among Canadians and groups concerned about aging.
- *Poverty Profile* (National Council of Welfare, 1985), announces that gradual improvements in the retirement income system have helped reduce the risk of poverty among elderly Canadians, particularly among the women.

#### Life Expectancy

A logo for the 1982 World Assembly on Aging was designed by Oscar Berger, an 80-year-old artist from the United States. This design depicts a stylized banyan tree within a circle and symbolizes not only self-reliance and continuing growth but also longevity; an appropriate symbol for this time of increased life expectancy.

In Canada as in all advanced countries, the number of people who live to 65 and later ages is increasing rapidly. In its publication *Sixty-five and Older* (National Council on Welfare, 1984) the Council defines 'aged' as persons 65 or older. Table 1 in this publication traces the population growth and projections from 1901 to 2051. Many reports and studies, including those by some government agencies, frequently indicate gloomy scenarios showing the alarming increase of persons within this age bracket. This often encourages the popular myth that old age and dependency and need are synonymous. In fact, Alan Walker cautions against policy of any kind being "formulated in a climate of alarmist

speculation, ... rather than on the basis of a careful analysis of actual needs among the elderly" (Walker, 1987).

A study that deals specifically with growth in the elderly segments of the population is entitled *The Elderly in Canada* (Statistics Canada, 1984). This report indicates the number of elderly, identifies where they live, and underlines how much money they have to spend. Percentages of total population aged 65 and over for Canada and selected countries and regions are outlined in *Fact Book on Aging in Canada* (Government of Canada, 1983). Population projections in selected age groups for Canada are given, encompassing the years 1901 to 2021. Similarly, *Population Projections for Canada, Provinces and Territories 1984-2006* (Statistics Canada, 1985) was prepared for planners and policy makers interested in demographic developments and related major issues. Fertility rates, interprovincial migration, projected births and deaths are represented in detailed tables and graphs. Worth noting as well is a recent article about Canada's diverse and aging population which is based on the 1986 Census results (Devereaux, 1987).

*The Seniors Boom: Dramatic Increases in Longevity and Prospects for Better Health* (Statistics Canada, 1986) is a chartbook which traces recent improvements in survival rates in the aging population. Tables and graphs indicate impressive declines in mortality rates, and improvements in quality of diet and health practices. This publication concludes with a bibliography of over 25 items.

A useful report *Longevity and Historical Life Tables 1921-1981 (Abridged) Canada and the Provinces* (Statistics Canada, 1986a) attempts to give a better understanding of longevity and mortality trends. Life tables for all provinces except Quebec and Newfoundland have been constructed for every quinquennial beginning with the years 1920-1922 to 1980-1982. The data sets presented in this document show tables for males and females separately and for both sexes together.

#### Health and the Elderly

Health planners and researchers involved in long-range studies related to population growth and structure will be interested in *Perspectives on Health* (Statistics Canada 1983b) which



gives a general overview of the health of Canadians and discusses such topics as drug use, preventative health practices, mortality statistics, health manpower, and hospital/physician services. Detailed tables and charts show, for example, alcohol consumption, number of cigarettes smoked, use of tranquilizers, and relationship of health problems to health behaviour. In *Sickness and Health: Health Statistics at a Glance* (Statistics Canada, 1983a), graphically illustrates statistics relating to health expenditures, fertility rates, accidents by type and sex, and selected infectious diseases.

Concerns in the area of mental health care of the elderly are expressed in *Mental Health Care of the Elderly: Proceedings of a Colloquium on Issues in Service, Assessment and Education* (Department of National Health and Welfare 1983?). This publication discusses past development and present issues, the need for expanded research and services, and problems regarding the recruitment and training of mental health workers. A useful list of references follows each chapter for those wishing to investigate the topic more thoroughly.

A handbook, *Alzheimer's Disease: A Family Information Handbook* (Department of National Health and Welfare, 1984) was prepared by the Alzheimer Society of Canada to help those who care for victims of this insidious disease. It outlines statistics, causes, symptoms, and the impact that this disease has on families and caring facilities. As more and more cases are reported each year, statistics show that after cancer, heart disease, and stroke, Alzheimer's disease is the next most common cause of death in Canada (p. 5).

One cause of death among the elderly is suicide. *Suicide Among the Aged in Canada* (Department of National Health and Welfare, 1982d) identifies many factors that may lead to suicide; loneliness, social isolation, retirement, lower income, and mental illness. Current activities directed toward suicide prevention and intervention are outlined. Statistical tables and charts appear as appendices at the end of this publication followed by a detailed bibliography.

*Health and Social Support, 1985* (Statistics Canada, 1987) reports on data collected during September and October 1985 by the Housing, Family,

and Statistics Division. A section of this publication is devoted to describing the activities which play a major role in the everyday lives of seniors. Some of the activities include yardwork, heavy housework, grocery shopping, meal preparation, managing money, light housework, and personal care. This general survey gathers together data on social trends and is useful in monitoring changes in Canadian society over a period of time. This report also includes comparisons with findings from *The Health of Canadians: Report of the Canada Health Survey* (Statistics Canada, 1981).

Information dealing with aging, leisure, and exercise is contained in *Fitness for Older Adults: A Handbook For Leaders* (Fitness and Amateur Sport, Canada, 1982). Insight is given into the psychological and physiological aspects of aging and exercise. One chapter on nutrition explains key nutrients and their functions and illustrates the food charts from *Canada's Food Guide: Handbook (Revised)* (Department of National Health and Welfare, 1982b). Two educational participation programs for older adults are described to indicate the administrative aspects of program planning. Eighteen references on the topics of aging, leisure, and exercise conclude this publication.

An interesting publication on fitness and health is entitled *The Phacts of Life: Fitness Canada's Guide to Permanent Weight Control. Improved Fitness and Health* (Fitness and Amateur Sport, Canada, 1984). This easy to follow program for losing weight without pills or special equipment was designed for teenagers and seniors alike. Written in a humorous manner, this publication encourages readers to eat less in combination with exercise activities such as walking, jogging, running and swimming. Exercises for summer and winter are outlined along with tips for developing good diet habits.

### Housing

Suitable accommodation is becoming an important consideration for seniors. No matter where a senior is living, the desire to be self-sufficient does not diminish with age. Cathy Bonnah, in *The Revised Report of the Seminar to Explore Shelter Issues and Choices Available to Elderly Canadians (1984-2001)* (National Advisory Council on Aging and Canada Mortgage and Housing Corporation, 1984), summarizes current and potential develop-

ments that are likely to have the most significant impact on future shelter and support service needs for older adults. A list of seminar participants is given along with expertise and short biographical information.

The report, *Maximizing Choices: Shelter in the Years Ahead* (National Advisory Council on Aging, n.d.), goes further to define housing choices such as communal housing, cooperative housing, rent geared to income apartments, and multi-level care facilities. A plan of action is outlined to show how elders may achieve maximization of housing choices. Some of the methods suggested include: involving seniors in influencing the redesigning of their living environments, organizing self-help programs, creating more supportive community environments, and improving technology.

*Housing Choices for Older Canadians* (Canada Mortgage and Housing Corporation, 1987b), a colourfully illustrated publication, was designed to help seniors arrive at their own conclusions about what is best for them. As many of the options discussed are not yet widely available in Canada, this booklet may initiate and stimulate discussion to create consumer demand for this type of housing. Similarly, the booklet, *Garden Suites: A New Housing Option for Elderly Canadians?* (Canada Mortgage and Housing Corporation, 1987a) describes various designs for this self-contained dwelling option and demonstrates the basic advantages of the "granny flat" concept.

*Housing for Elderly People: Design Guidelines* (Canada Mortgage and Housing Corporation, 1987c), provides guidance to both laypersons and professionals involved in planning housing environments for the elderly. The guidelines illustrate the importance of "user-oriented designs" that pay attention to the physiological and psychological needs of older people. An annotated bibliography of over 80 references appears at the conclusion of this publication.

### Old Age Security

An adequate income means freedom, security, and independence to all Canadians. However for seniors, income means a chance to stay alive, to be autonomous, and to remain involved in the mainstream of society. An excellent overview of old age

security programs since 1927 is outlined in *Old Age Security, Guaranteed Income Supplement and Spouses Allowance* (Statistics Canada, 1982) and in *Old Age Security: Report for the Year Ending March 31, 1985* (Department of National Health and Welfare, 1986). Other additional plans and sources of income are explained as well.

The federal government in its Green Paper *Better Pensions for Canadians* (Department of National Health and Welfare, 1982a) identified key problems of the current retirement income system and clarified why reform is required. Although the retirement income system has improved over the last half-century, incomes are still inadequate, especially among single elderly women.

*Action Plan for Pension Reform: Building Better Pensions for Canadians* (Department of Finance, 1984) sets out the government's plan for strengthening public pensions and for improving benefits especially to women. This plan represents a responsible follow-up to the years of study that have been directed to the pension system.

Government publications are primary source materials that can be used by all types of library patrons. This discussion addresses some of the issues related to aging, and the publications that are readily available to the general public. □

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# Clothing Behavior of Older Consumers: An Overview

Betty G. Dillard and Betty L. Feather

## Abstract

The Canadian older consumer market continues to increase yet the availability of appropriately sized apparel is limited. This review article finds support in the literature that older consumers enjoy shopping, are interested in their appearance and do purchase quality clothing. The media could be improved by eliminating stereotypes and socioeconomic bias particularly relating to gender differences. Research results show that older women have greater problems and more specific preferences than older men in purchasing adequately fitting apparel. Retailers could benefit from servicing older consumers because they tend to enjoy shopping, maintain loyalties to stores and prefer to pay cash.

## Résumé

Le marché des consommateurs canadiens plus âgés continue à s'accroître bien que la disponibilité de l'habillement approprié soit limitée. Cet article trouve appui dans les documents confirmant que les consommateurs plus âgés aiment magasiner, sont soucieux de leur apparence et achètent des vêtements de qualité. Les médias pourraient améliorer leur contenu en éliminant les stéréotypes et biais socioéconomiques, particulièrement ceux reliés à la différence des sexes. Les résultats de la recherche montrent que les femmes plus âgées ont des problèmes plus importants et des préférences plus spécifiques que les hommes de leur âge face à l'achat adéquat d'habillement seyant. Les détaillants auraient avantage à desservir le marché des consommateurs plus âgés qui aiment magasiner, demeurent fidèles à leurs établissements commerciaux et paient en argent liquide.

The proportion of Canadian older adults has and continues to increase rapidly. The number of persons over 65 years has doubled since 1900 and increased by approximately 18% between 1976 and 1981. In 1981 almost 10% of the Canadian population or 2.4 million persons were 65 years of age and older. Projections indicate that by 2001 this age group will be 12% of the population, and by 2026 it will be 16% to 19% of the population. (*Canada Yearbook*, 1985).

The older adult population is tremendously diverse, in social characteristics, health, income level, and every other measure. The current group of older adults aged 65-74 differs from preceding groups because of increased life expectancy, better health, more stable income, greater education, and lower poverty levels. In coming years, the population of 65-74 year olds will show even greater gains in these characteristics (Meyers, 1987).

The increased number of older persons has stimulated research to examine their needs and interests. The Alberta Consumer and Corporate Affairs Office study (1979) found food, utilities, auto insurance, home repairs, eye care, and clothing to be major concerns. This paper reviews research related to both basic needs and a major

concern, clothing; and reports clothing preferences, spending patterns, and shopping behavior of consumers 65 years and older.

Family income for older Canadians is much lower than for all families although discretionary income may be higher for older persons than for younger families due to the absence of child rearing, greater tax exemptions, mortgage-free or subsidized housing, and government subsidized payments.

In Canada, 81 to 85% of persons 65 and over live on their own and 10 to 13% have medical problems and/or draw on community resources to remain independent. Only five percent of the older population live in institutions, but this proportion increases as people become older (Scambler, 1983). It is desirable from a social perspective that older adults remain independent as long as possible. For that to occur, they must be able to manage the activities of daily life, which include dressing and undressing without assistance.

Considerable attention has been given to the physical changes associated with the aging process and the selection, use, and care of clothing to meet the corresponding needs engendered by physical changes (Avery, Pestle & Radcliffe, 1985-1986; Hoffman, 1979; Kernaleguen, 1978; Reich & Otten, 1987; Shannon, 1987; Smathers & Horridge, 1979; Woodson & Horridge, 1986). The areas of clothing interest and preferences, clothing shopping behavior and satisfaction

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have received less attention. Selected references are drawn from North American and European journals based on the assumption that there are not major differences in clothing behavior of older consumers due to similarities in economic, technological, and social conditions but recognizing differences in governmental regulations concerning garment sizing, labeling, and social benefit programs.

### **Clothing Interest of Older Persons**

Kernaleguen (1978) stated that an attractive appearance bolsters morale and self-assurance and influences social acceptability. She indicated elderly persons want to conform to current fashions at least to the extent that they will not be perceived as different. Hoffman (1979) noted another important psychological message that new clothing conveys an orientation toward the future rather than the past.

Personal characteristics do not change but intensify in the aging process. Gravois, Kelley, and Hildreth (1980) found that persons who were interested in clothing and shopping in their younger years continued to have similar interests in later years. Furthermore, Martin (1976) noted less difference between younger and older women shoppers for shopping enjoyment than several other shopping behaviors. In addition, two-thirds of the older women surveyed exhibited a positive degree of fashion consciousness.

The extent of clothing interest can be demonstrated by purchases of various clothing and accessory items. Older women purchase a greater percentage of higher-priced garments, with the exception of jeans, than younger age groups (Martin, 1976; Terry, 1980). Compared to younger men, older men (65 to 80 years old) reported greater interest in personal appearance, conformity, psychological awareness, and modesty. However, they did not report using clothing to enhance their self-esteem to the extent that younger men did (Drake & Gurel, 1978). Older consumers are among the largest spenders for such items as furs, jewelry, and expensive clothing (Visvabharathy & Rink, 1984).

### **Clothing Preferences of Older Persons**

Older consumers' clothing preferences are influenced by their anatomical, physiological, and pathological age-

related problems, which have implications for garment design, fabrics, and closures. Rosenblad-Wallin and Karlsson (1986) outlined five general anatomical changes for men and women: height loss, spinal column bends, chest shape changes, circumference increases, and weight changes. Numerous physiological and pathological changes affect dressing and undressing, manipulation of closures, and comfort.

The results of a Swedish market analysis revealed that almost half of women's ready-to-wear clothing was not designed to meet the older woman's needs; and it substantiated these women spent almost as much for clothing as younger women. In Sweden and West Germany, a new sizing system for elderly women, "E-sizes", was designed to address the anatomical changes associated with aging. According to Rosenblad-Wallin and Karlsson (1986) manufacturers have supported the new sizing system, but retailers, believing there is a lack of consumer interest, have been reluctant to market the garments.

Older women indicate a preference for one-piece dresses without a waistline seam, gored skirts with added ease, V-shaped necklines or shirt collars, center front openings to below the waistline, and set-in,  $\frac{3}{4}$  length sleeves with ample ease in the armhole (Cone, 1984; Richards, 1981; Schuster & Kelly, 1974; Smathers & Horridge, 1979; Spruiell & Jenigan, 1982). Terry's (1980) results indicate older women strongly prefer skirts, blouses, and slacks.

Since almost half of the older population has arthritis (Rosenblad-Wallin & Karlsson, 1986) several studies focus on garment fasteners. Force and Shannon (1983) reported their subjects did not always prefer the fastener that was easiest to manipulate, but rather the fastener with the most conventional appearance. For all types of garments the button was the most preferred, the zipper and Velcro moderately acceptable, and snaps the least preferred.

Due to physiological changes related to circulation, changes in metabolism, and conditions of the skin, older consumers prefer lightweight, soft, and flexible fabrics. Skin problems in the elderly have been linked to certain fibers such as nylon, spandex, wool, and silk, as well as dyes, stiff fabrics,

rough textures, and certain fabric finishes (Reich & Otten, 1987; Schuster & Kelly, 1974). Terry (1980) reported older consumers preferred permanent press fabrics such as polyester and nylon over cotton because they require less care.

### **Shopping Behavior of Older Persons**

Retailers could use mass media more effectively to influence older consumers' shopping behavior. In Kaiser and Chandler's (1984) study of three forms of mass media, magazines, newspaper and television, they reported older consumers used newspapers most frequently for clothing purchase information. Females and persons who spend more on clothing were more likely to obtain fashion ideas from any of the media sources than males and persons who spend less on clothing. In her study of media influences on fashion ideas of elderly and college aged consumers, Chowdhary (1987) concluded that the elderly used fashion columns and ads in newspapers, and radio fashion programs more than younger consumers.

Mass media serve as sources of fashion information both through direct and indirect advertising. Older consumers use magazines and television for fashion ideas and they observe news and talk shows as well as day and evening serials for clothing information. Older consumers believe that media continue to perpetuate stereotypes in that older adults on news and talk shows tended to be well-dressed males whereas, older women tended to be less fashionably dressed (Kaiser & Chandler, 1985). Males over 70 with more than a high school education were more likely to use television as a source of fashion information than younger individuals with the same education. Compared to males with lower clothing expenditures, older males with greater clothing expenditures were more likely to use fashion information (Kaiser & Chandler, 1984).

Shopping is a source of pleasure and recreation for most older consumers (Lumpkin & Greenberg, 1982; Martin, 1976; Mason & Bearden, 1978). These consumers prefer to shop in retail stores rather than mail order, door-to-door sales, or telephone order (Barnes & Peters, 1982). Older persons tend to shop in the more traditional department stores and small specialty stores, and less in discount stores (Bernhardt & Kinnear, 1975; Lumpkin & Green-

berg, 1982). In contrast, a recent study (Chowdhary, 1988) reports department stores continue to be a primary shopping preference; but older consumers do not distinguish between discount and speciality stores. They continue to be more concerned about ease and convenience of shopping as well as transportation to shopping sites. Older consumers are willing to pay for convenience and service. They tend to shop alone, have a definite purchase in mind, exhibit a sense of fashion consciousness and seek assistance from sales personnel (Lumpkin, Greenberg & Goldstucker, 1985).

### Satisfaction with Ready-to-Wear Clothing Selection

Older women experience difficulty in finding a good selection of ready-to-wear garments that fit because of their changing body shape (Richards, 1981; Smathers & Horridge, 1979). Sizing standards used today by Canadian and U.S. apparel industries do not represent current women's body measurements of all ages (Shannon, 1987; Woodson & Horridge, 1986). Men usually have less difficulty with fit because they wear separates; shirts and trousers have a more flexible sizing system.

Older women's most frequent complaints of inaccurate fit were excessive garment length in the shoulder, skirts, sleeve, and bodice (Hogge & Baer, 1986; Richards, 1981). The fit was often too tight in the hips, bust, waist, and stomach (Smathers & Horridge, 1979). Hogge and Baer (1986) indicated that women over 75 expressed less need for alterations; they confused comfort with fit to a certain degree. Richards (1981) noted fewer fitting problems with separates and half-size dresses, which may represent the size range most closely correlated to the older female body. Although older women seemed interested in special sizing, they were reluctant to shop in specialized departments.

### Conclusions

There is a potential retail market for older consumers who are interested in dressing fashionably and who are known to spend money for quality merchandise. Unfortunately, retailers have been unwilling to support adequately sized garments for older consumers in Canada, the United States, and Sweden. The recent growth of the larger sized garment market in

the United States may reflect retailers' growing recognition of the potential market they are not servicing.

Researchers are examining marketing factors that stimulate and influence consumers' purchasing decisions. Retailers could find this information beneficial. Current researchers are overcoming sexual and socioeconomic biases and are developing sample sizes from which findings can be generalized. Although sometimes difficult, results of research on older consumers' needs must be conveyed to retailers through their professional publications or meetings.

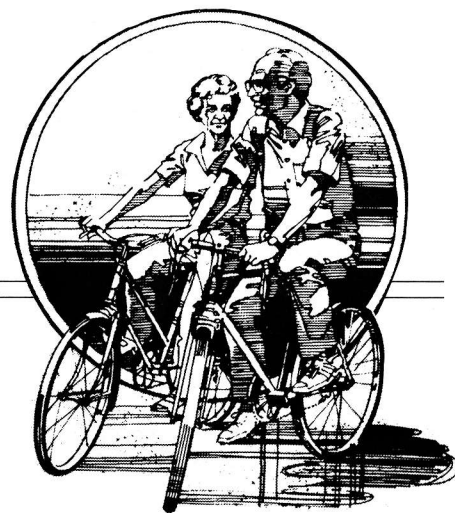
Because the percentage of elderly in the population will increase and the trend is to maintain independence, design and marketing of attractive well-fitting clothing deserves attention. If major retailers do not find this market attractive, undoubtedly small retailers will. The small retailer will have the edge for they will be better able to target their market and provide services (such as alterations, delivery, personal shopping) that appeal to older consumers. □

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# Canada's Aging Population: Implications for Policy and Practice

by Mary W. Engelmann



## Abstract

This article looks at future demographic, health, and social trends of Canada's older population. It discusses the implications of these trends for income security, employment and volunteerism, recreation and leisure activities, health and social services. It suggests that the older people of the future will be healthier, financially more secure, have more years of formal schooling and be more assertive and politically sophisticated. It will be necessary to respond to these trends in many ways, including using the resources of seniors and changing the present cure or custodial care approach in health care to one that emphasizes early intervention, appropriate treatment, and rehabilitation. A growing senior population does have implications for policy and practice but should be viewed not as a problem but as a triumph for our society.

## Résumé

Cet article examine les tendances démographiques, sociales et de santé futures de la population âgée du Canada. Il se penche sur l'effet de ces tendances sur la sécurité de revenus, l'emploi et le bénévolat, la récréation et les loisirs, la santé et les services sociaux. L'article suggère que les personnes âgées de l'avenir seront en meilleure santé, mieux protégées financièrement, posséderont une formation académique plus poussée et seront plus assurées et sophistiquées face à la politique. Il sera nécessaire de réagir à ces tendances de diverses façons, notamment en mettant à profit les ressources offertes par les citoyens du troisième âge et en changeant l'approche actuelle de santé axée sur la guérison ou les soins pour une philosophie qui insistera sur l'intervention précoce, le traitement approprié et la réintégration. Une population âgée grandissante comporte des implications politiques et pratiques; toutefois, il ne faudrait pas croire que cette situation soit un problème. Il s'agit plutôt d'un triomphe pour notre société.

In Canada, the numbers of older people are increasing at a much faster rate than the numbers of the total population. While in 1986 one out of every 10 Canadians was age 65 and over, by 2021 one out of every five Canadians will be in this age group (Stone & Fletcher, 1986). This change in the age structure of our population will have a significant impact on the direction of policies, programs, and practices for older people. This article will describe some of the expected demographic changes and the implications of these changes for various policies and programs.

## Demographic Trends

As of 1986, Canada's population age 65 and over numbered 2.7 million persons, or 11 percent of the total population (Census of Canada, 1986), an increase from 9.7 percent in 1981. This trend is expected to continue with an average annual increase of 3 percent through 1991. This rate of growth will slow after the turn of the century, then increase as the "baby-boom" population reaches its senior years (Stone & Fletcher, 1986).

Many factors must be taken into account in developing projections concerning the size of the future older population. Fertility, migration, and mortality all have an effect on population aging, and it is difficult to try to determine the future. Several scenarios based on differing growth assumptions have been developed by Statistics Canada, though it has been suggested that a low growth scenario is most likely (McDaniel, 1986).

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Whatever the scenario, by the year 2026 Canada will have many more elderly persons representing a greater proportion of all Canadians. If there is relatively little change in migration, fertility, and mortality patterns, persons age 65 and over will be 24 percent of the total population. With more migration and a higher fertility rate, older persons may be 18 percent of all Canadians (Statistics Canada, 1985).

Another trend is the aging of the senior population itself. An increasing proportion of the senior population will be age 75 and over with the fastest rate of growth of all age groups being shown by those age 85 and over. This group is expected to increase 4 percent or more per annum in the 1990s (Stone & Fletcher, 1986). This rapid growth of the oldest age group has particularly important implications for health and social service policies, as persons in this age group are most likely to have some dependencies which cause them to need help of various kinds.

Part of the aging of the population is due to the increasing longevity of Canadians. There have been major declines in mortality rates, with the result that the average life expectancy at birth for Canadians has been increasing continuously. In 1980-82 it was 71.9 years for men and 79 years for women, compared to 60 years and 62.1 years respectively in 1931 (McDaniel, 1986). Because of this differential life expectancy between men and women, women predominate in the older population especially among those 85 and over. However, as is pointed out in the article in this issue by Lauris and Trovato, this discrepancy between



men and women in life expectancy has been lessening as the mortality rate for men declines at a greater rate than that for women.

There are great provincial differences in proportions of older people. For example, compared to Canada as a whole, Alberta and Newfoundland have smaller percentages of elderly in their populations, with 8.5 percent and 8.1 percent respectively. It is expected that the proportions of older people in these populations will not grow quite as rapidly as in the other provinces. In contrast, Prince Edward Island has the oldest population with 12.5 percent seniors. The province is expected to continue to be the oldest until at least 2011 (Stone & Fletcher, 1986). It is important to have an understanding of population aging in each province, as many of the policies and programs for the elderly are determined provincially.

There is a tendency to see the aging of Canada as a problem since health and social services are used heavily by older people. However, that presumes that the older people of the future will have the same needs as the seniors of today and that the same kinds of services will be provided in the same way as in the past. In view of social and health trends, this presumption is questionable. However, this does not negate the imperative to examine the implications of a future more elderly society.

### Health and Social Trends

**Health status.** Many experts believe that along with increasing average life expectancy, there will be a consistent and substantial trend toward better health among older people. Canadian demographers Leroy Stone and Susan Fletcher (1986) point out the improvement in health practices among older Canadians, and Susan McDaniel (1986) writes that "older Canadians are becoming healthier, living longer, adjusting to their chronic illnesses better and finding new approaches to any long-term care needs that arise" (p. 82). Lauris and Trovato in the article in this issue suggest that it is recent lifestyle improvements on the part of men which are resulting in the declining male mortality rate.

Others are less positive. Brody, Brock, and Williams (1987) suggest that we may be "adding modestly to the years of active life expectancy while, on average, adding more rapidly to the

number of years being lived with increasing disabilities" (p. 231). However, in view of other trends, this writer prefers to take the optimistic view that increasing life expectancy is being accompanied by generally better health in the later years, and that a large percentage of tomorrow's elderly will be the well elderly.

**Income.** Levels of income of older people appear to be improving. Between 1976 and 1986 there was a gradual decline in the percentage, from 55 percent to 49 percent, of Old Age Security recipients<sup>1</sup> receiving the Guaranteed Income Supplement, paid to Old Age Security recipients with no or little income (Health and Welfare Canada, 1987). In addition, retirees from employment are now receiving Canada (or Quebec) Pension Plan benefits. An increasing percentage of retirees is also receiving benefits from private pension plans.<sup>2</sup> More older women have been employed, and in retirement are receiving at least public pension plan benefits. There are some regions of Canada where a relatively high unemployment rate may affect the financial security of the future elderly, since during periods of unemployment one cannot make pension contributions. However, in general the economic future for elderly persons looks brighter, with older people having more disposable income.

**Education.** Successive generations of Canada's elders are becoming better educated. Data for Alberta from the 1981 census show that younger cohorts of seniors have a generally higher level of education than older seniors (Alberta Senior Citizens Secretariat, 1986).

Education and financial security generally are connected with better health. According to McDaniel (1986), disability-free life expectancy averages 7.7 years longer for those who are better off financially than for those who are poor.

<sup>1</sup>All persons aged 65 and over living in Canada who meet the residency requirements are eligible for Old Age Security benefits. It is estimated that about 2 percent of the senior population consists of recent immigrants who do not qualify for this benefit.

<sup>2</sup>According to a 1984 publication of Statistics Canada, 47 percent of paid employed persons were covered by private pensions at that time (Statistics Canada, 1984).

**Political action.** Older people are becoming more assertive, involved, and politically active. An estimated one-third of older Canadians belong to seniors' clubs or volunteer organizations (Staff, 1987). An example of the increasing interest of older people in issues relating to their concerns is the formation of the One Voice movement in Canada. It provides a forum for seniors to speak for themselves, focusing attention on issues of concern to older people and monitoring national, provincial, and local issues affecting them (Alberta Council on Aging, 1987).

Older people will inevitably have a greater influence on the political process because they comprise increasing numbers of eligible voters. Estimates are that 13.5 percent of Canadian voters are age 65 and over, and that this figure will rise to 25 percent by the year 2030 (Staff, 1987). Studies of voting participation in Canada also show that a greater percentage of persons age 66 and over vote than those age 22 to 35 (Mishler, 1979). According to the National Advisory Council on Aging in Canada, 52 percent of the leaders of seniors' organizations in Canada said that they were involved in partisan political activity (Staff, 1987).

The greater proportion of older voters, coupled with their tendency to vote in greater proportions, may well have ramifications for the development of social and economic policies affecting the elderly. Without question, politicians will be sensitive to older voters. That they are already, can be seen from the ability of older people in Canada to cause the federal government in 1985 to change its plan to de-index Old Age Security payments.

How older people will use their voting power in the future is not easy to predict. It may well be difficult for future governments to restrain the growth of public expenditures by changing the existing eligibility for a number of programs now based on age only, by introducing user fees related to income or to take any steps that would cause loss of income for the elderly. On the other hand there is little evidence as yet to indicate that older voters would opt for their own interests at the expense of younger people. An informal survey carried out by University of Alberta political science students in the mid-seventies showed that older people were as

concerned about education and jobs for the young as they were about pensions (Engelmann, 1975).<sup>3</sup> With the growth of the older population, further exploration of political and voting participation and policy preferences of the elderly would be helpful.

Without question, the elderly of the future will have different values, be more conscious of their rights and be more demanding and more critical of programs and services. At the same time they will undoubtedly be able to contribute to, and will insist on being involved in, decisions about their own lives.

#### **Implications for Policy and Practice**

**Income security.** Since an adequate income in retirement is basic to the elderly, increasing emphasis must be placed on ensuring that the public pension plans in Canada are solidly in place. The current steps being taken to increase funding for the Canada Pension Plan are essential, as are the new provisions in the Plan which make it possible to retire as early as age 60 or as late as age 70. There needs to be improvement in the pension coverage of many employed persons, in particular those working for small businesses who are not covered by private pension plans. Continued emphasis must be placed on encouraging people, at an early age, to save for retirement by providing tax incentives. All these steps are necessary if we are to avoid the need to supplement the retirement incomes of a significant segment of the older population.

**Employment and volunteer activity.** With a shrinking labour force to support a larger older population, it may become necessary to encourage some people to postpone retirement and to work beyond age 65. This may be needed particularly if the economy continues to recover and more jobs become available. Such a step may alleviate a future scenario in which a smaller labour force will be supporting an increasing dependent elderly population.

It will be important to find creative ways to use the talents and productivity of older people. We cannot expect that people will have lifelong tenure in jobs, nor can we afford a stagnant and

dependent elderly population. The answer, according to Comfort (1976), lies "in recognizing the continued growth and achievement of people, and giving them, at a set age, the option of retirement (which some will choose) and continued involvement in something quite new . . ." (p. 19). This writer believes that this approach will help to ensure that we have a more satisfied and healthier older population.

While finding such involvements is partly an individual responsibility, there needs to be more opportunity for older people to continue with part-time paid or volunteer work. Developing opportunities for volunteer involvement will be important both for the satisfaction of older people themselves and because, with a declining younger population, their services will be needed. There will be more peer support programs with seniors helping each other.

**Recreation and leisure.** The increasing numbers of healthy, active, retired persons pose a challenge for recreation and leisure services and for educational programs. Recreation services, by providing programs such as swimming, hiking, and cross-country skiing, can do much to maintain fitness in older people. Regular exercise can delay some of the physiological changes which come with aging (McPherson, 1983). Mental fitness in the later years of life is also important. While the "spring sessions for seniors" and elder hostel programs are a good start, schools, colleges, and universities could increase opportunities for continuing education for retired persons. Perhaps some persons will want to use their retirement years to obtain a liberal education or a degree in a field quite unrelated to the work which they did in their younger years.

There are now many senior citizens centres in Canada, offering a variety of social, recreational, educational, and service programs. These centres will need to ensure that their programs remain relevant and appropriate for an increasingly sophisticated retired population. The seniors of the future will want to be involved in directing these programs and in determining the policies. A senior centre, under the management of retired persons themselves, offers a very real opportunity for peer support and assistance.

**Health care.** Much concern has been expressed about the future costs of

health care for the increasing numbers of elderly persons. Older persons do use physician and hospital services in greater proportion than their proportion in the population, which is not surprising given the level of chronic illness in the later years of life. Health care costs have been rising, and according to the Ontario Economic Council there may be "a real increase of 199 percent in the cost of institutional and physician services to those over 65 between 1976 and 2026" (Hertzman & Hayes, p. 373). A Report of the Canadian Medical Association states that "by the year 2021, demographic changes alone will increase current expenditures on health care by about 75 percent to over \$32 billion" (Canadian Medical Association, n.d., p. 17).

Palmore (1986) believes, however, that the need to increase health services to meet the needs of rising numbers of elderly will be at least partially offset by the trend toward better health among the elderly. However, there must be a continued emphasis on maintaining health and functioning ability in the later years of life. The federal government in Canada is giving increasing recognition to the importance of health promotion programs and to the influence of lifestyle on health (Epp, 1986). This emphasis, along with helping people learn how to cope effectively with chronic illness, should be continued in all programs directed toward both younger and older persons. Public health agencies, which have emphasized maternal and child health, will need to direct more attention to the senior population.

No matter how successful our health promotion and fitness programs are, nor how many opportunities become available for work and education in the later years, there will be people who develop chronic illnesses and functional dependencies in the later years of life. Providing appropriate health care and meeting effectively the dependency needs of this segment of our future larger elderly population will be a challenge.

However, it is not just the aging of the population that is the challenge. The challenge is to redirect our health care resources to ensure that our health care system provides appropriate care for an aging population. Our health care services, in addition to emphasizing prevention, must emphasize early intervention, appro-

<sup>3</sup>This was an informal quota-sample survey done before there was any pressure to restrain government expenditures.

appropriate treatment and rehabilitation, particularly in relation to the chronic illnesses which are more commonly found in the later years. This emphasis should replace the present approach of "cure or custodial care" which often results in inappropriate use of expensive services. An additional challenge is to avoid creating unnecessary dependency. While there will always be a need for good, high quality institutional care for some older people, we must look to more creative and less intrusive ways of meeting dependency needs. What many frail older people need is assisted independence.

One way in which this can be done is by providing various forms of housing. Some suggestions are shared housing, group housing, "granny flats" (portable housing which can be placed on relatives' property) and various forms of single, row, and/or apartment housing combined with various packages of services. Many older people in the future may be able to pay in whole or in part for these housing alternatives.

Community care services can also provide this assisted independence. Services will need to be expanded, to encompass not only the traditional home nursing services, but more rehabilitation and non-medical support services, such as homemakers, transportation assistance, and day services for the very frail and disabled. The majority of older people live in a family situation, most with a spouse (Government of Canada, 1983), and family support is the major form of support provided (Government of Canada, 1982). While there are changes taking place in the structure of families, these human relationships will remain very important.

Community care will be essential in helping to maintain these supportive relationships when the care requirements of an individual are heavy.

If we are to meet effectively the challenge of an aging society, there must be an increase in knowledge and understanding about aging and the needs of older people. This understanding is needed on the part of the general public, including the elderly themselves, and on the part of professionals. What we know and believe about aging and the needs of older people is reflected in our social policies, in our services, and in our relationships with older friends, relatives, and clients.

A growing senior population has major implications for our educational institutions, for the media, and for research. There will be a need to ensure that more accurate information is made available to the general public. Professional faculties, particularly those educating health professionals, must include more information about aging and older people. A Canadian Medical Association committee on health care of the elderly makes some major recommendations to this effect in its recently released report (Canadian Medical Association, 1987). In addition, professionals will need to start listening more to their elderly clients/patients. As indicated earlier, the coming generations of seniors will insist on this. Lastly, there will need to be continued and increased research into ways of making life in the later years satisfying and dignified.

A growing senior population does have implications for our policies and practices. However, with understanding and a constructive approach, these older persons of the future can be a resource for all of Canada. The increasing longevity of Canadians and the resulting growing numbers of older people in the future should be viewed not as a problem but as a triumph of our society. □

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# 2008: Housing the Elderly: Perceptions of Community Planners, Gerontologists, and Women in Research

by Wanda Young and Doris Hasell

## Abstract

The purpose of this paper is to integrate the discussions and ideas of community planners, professionals working in gerontology, and women involved in research. Each group discussed findings related to the housing of the elderly using the Wagschal Futures Wheel discussion technique. The findings were generated in a study of the housing of elderly and disabled subjects in urban and rural Saskatchewan. Comments from the participants include the effect of the increase in the number of elderly persons on housing; isolation, which was identified as a major problem of the elderly in future; and the impact of increased numbers of the elderly needing rental accommodation. These ideas may assist the planning of housing and communities for the elderly in the future.

## Résumé

Le but de cet article est d'intégrer les idées et discussions des planificateurs communautaires, des professionnels oeuvrant en gérontologie et des femmes impliquées dans la recherche. Chaque groupe a examiné les conclusions reliées à l'hébergement des personnes âgées en utilisant la technique de discussion "Wagschal Futures Wheel". Les constatations sont le résultat d'une étude sur l'hébergement des personnes âgées et handicapées dans les villes et villages de la Saskatchewan. Les participants commentent sur l'effet de l'augmentation du nombre de personnes âgées sur l'hébergement; l'isolement, identifiée comme étant un problème d'importance chez les personnes du troisième âge; et l'impact du nombre croissant de vieillards en quête de logements. Ces idées pourront aider à la planification de l'hébergement et des communautés pour personnes âgées.

At the World Assembly on Aging (United Nations 1982) it was agreed that housing was a major problem for the elderly in most countries. The purpose of this paper is to integrate discussions about the future housing of the elderly made by community planners, gerontologists, and women in research. These discussions were based upon a description of housing in urban and rural Saskatchewan (Young & Hasell, 1981). The three groups used the Wagschal (1981) Futures Wheel discussion technique.

## Research Base

Although the 1986 census indicates a population decline (Devereaux, 1987), the elderly population over 65 years of age has increased to 10.7% of the total population, from 9.9% in the 1981 census. It was forecast at the World Assembly on Aging (United Nations, 1982) that the number of aging persons will increase by at least 3% and perhaps by 7% by the year 2000. The province of Saskatchewan now has more than 11% of the population over 65, higher than the national average. By 2008, Saskatchewan can expect from 14-18% of the province's population to be in the elderly category. Some smaller communities may have about 30% of the population in this age group. Many of the individuals are women living alone.

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The description of current housing for the elderly was designed from data obtained in a research project entitled *Housing Needs Assessment of the Elderly and Disabled in the Saskatoon Area of Saskatchewan* (Young & Hasell, 1981). This research was funded by Canada Mortgage and Housing Corporation.

**Research Summary.** The most common home was detached. It was occupied by single women or couples who had resided in the home for less than ten years. The home was from 10 to 19 years old. It was owned by the subject. The orientation was to either the south or west. The house was small in size, all on one level. It was somewhat protected from fire and theft. Water and electricity were available and electricity was most used for cooking (Young & Hasell, 1981).

## The Discussions

**Discussion Technique.** The Futures Wheel as used by Wagschal (1981) can be used to explore trends, issues, or problems and their consequences. This method assists policy makers to come to a decision and citizens to understand what may happen.

Each group of five persons was given a sheet of newsprint centered with a circled trend derived from the research report. Participants discussed the possible consequences of the trend. When the group unanimously agreed about the consequence, it was written at the end of a spoke from the circle. This was repeated until at least three consequences were placed around the trend.

The next step was to consider each of the consequences as a trend. At least three consequences were developed



for each of the second level trends. The discussion continued until there were three or four levels with three or more consequences for each.

This discussion technique is the opposite of brainstorming, in which no critical comments are permitted. In the Futures Wheel strategy (Wagschal, 1981), any member of the group can name a consequence, but each member must agree that the consequence may be placed on the newsprint sheet.

**Discussion Occasions.** The discussion with community planners occurred in Regina, Saskatchewan at the Face of the Prairies: 2003 Conference, held 13-15 October, 1983 (Young & Hasell, 1985). Professionals working with the elderly participated at a session of the Canadian Association for Gerontology Conference held in Vancouver, British Columbia 2-4 November 1984. The most recent discussion was a part of the Canadian Research Institute for the Advancement of Women Conference held in Winnipeg, Manitoba from 6-8 November 1987. Women involved in research were the participants on this occasion.

**Discussion Findings.** Each of the three groups discussed different and similar findings. The one trend discussed by the three groups was the increasing percentage of the population over 65 years of age. In Figure 1 are included the consequences and trends developed by the three groups. In Figure 2 the discussion of "isolation" is shown. The consequences included in this figure were derived in discussions in the community planner and gerontologist groups. However, these findings are culled from several different trends and formed into a future wheel. The trend "a majority of the elderly will rent their home" was discussed in the community planners group and in the gerontologist group. The findings are shown in Figure 3. In these figures, G represents gerontologists, P represents community planners, and W represents women involved in research.

**Increased population over 65.** In Figure 1 note that nine consequences were developed.

Two groups, the community planners and the women in research, suggested that there would be more segregation as the number of persons over 65 increased. This segregation would result in more limited income for the seniors. The segregation would

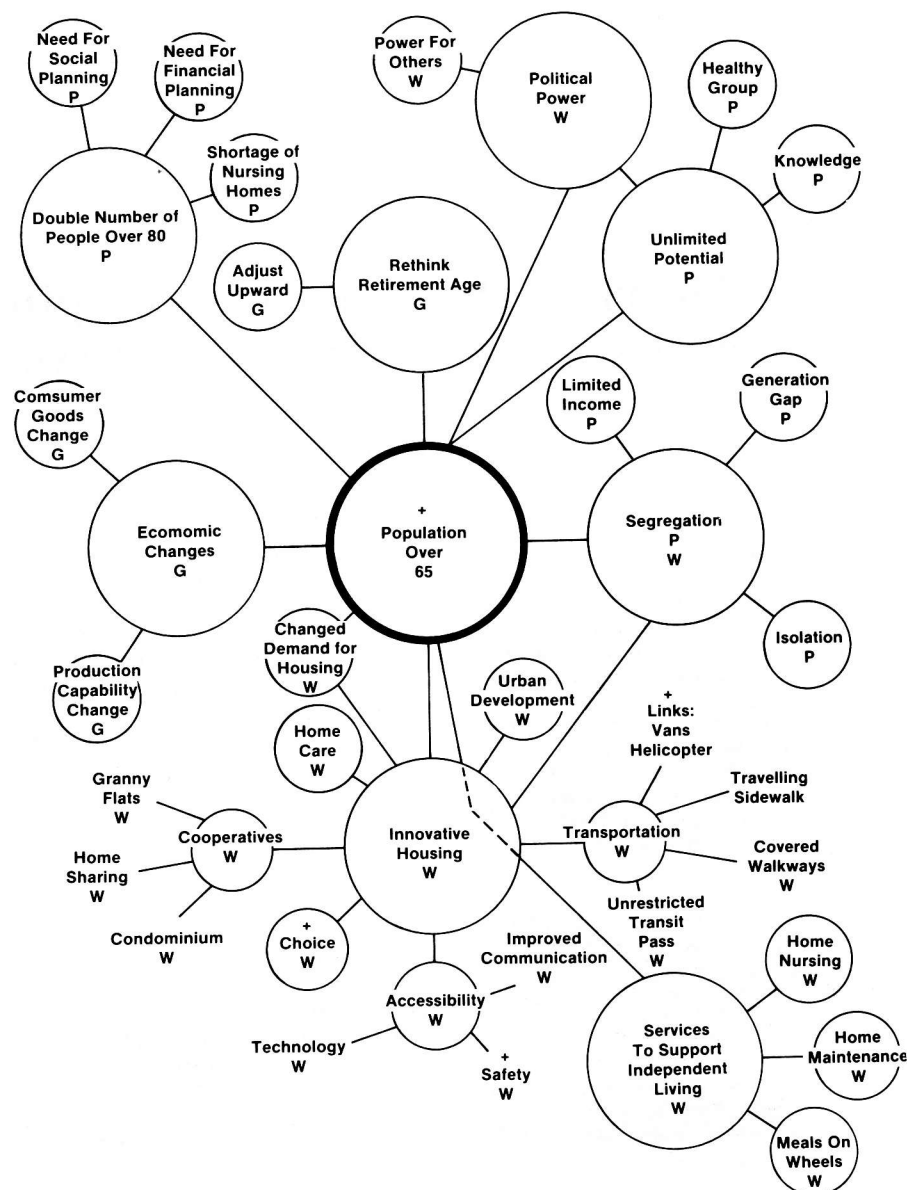


Figure 1. Consequences of Increased Population Over 65

make a pronounced generation gap with lack of understanding and common values between the generations. Isolation would result. This item has been shown as a major finding in Figure 2.

The community planners suggested that there would be double the number of people over 80 as result of the increase in population over 65. Those over 80 may be more fragile and so will need an increased number of nursing homes or an alternative style of housing. With the expectation of a longer life, individuals should take greater care with their financial

planning for old age. Society as a whole should be involved with the elderly in social planning of all kinds to meet the needs of both newly retired and fragile older persons.

The gerontologists recommended considering the economic consequences of a larger seniors group. It was pointed out that the nature of consumer goods would change. For example, elderly people have a different physical shape and so modifications in chair design will be needed. Also, the production capability for consumer goods would change. As senior citizens retire from the production fields, they

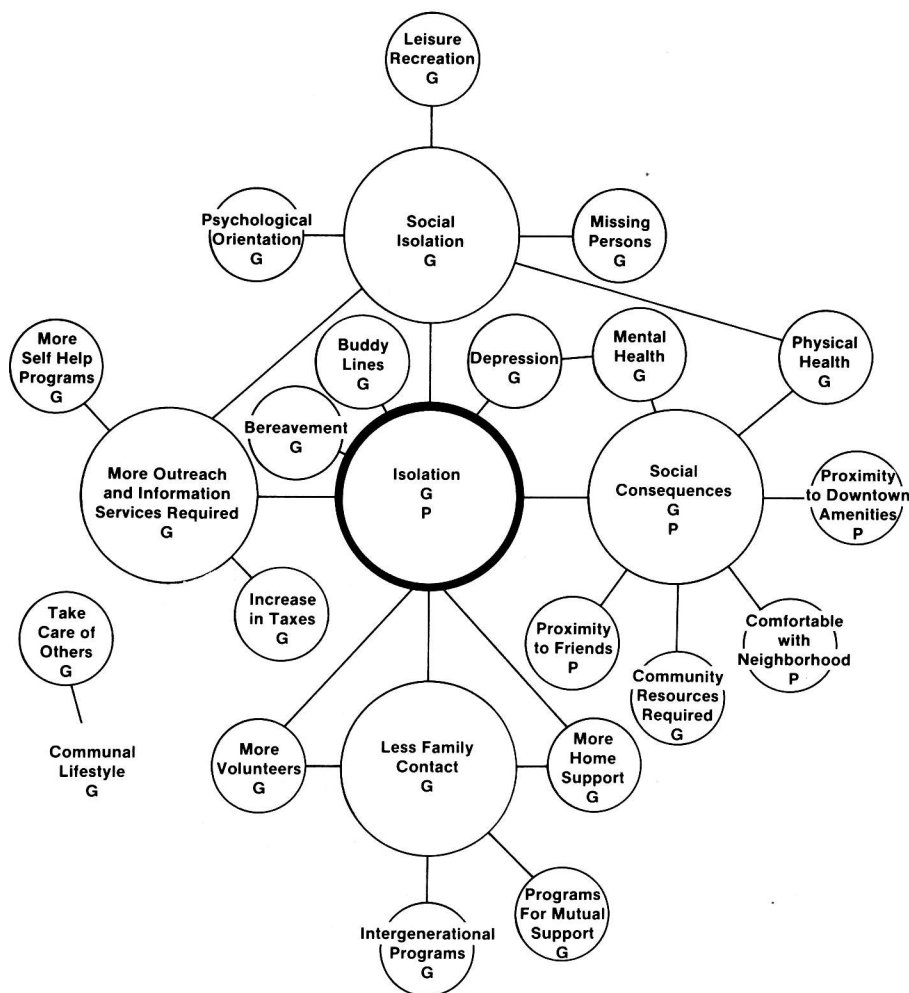


Figure 2. Isolation as a Problem for the Elderly

take with them the skills learned over a lifetime. They are replaced by younger persons still developing their skills.

The final suggestions made by the gerontologists was the need to rethink retirement age. The suggestion made was that retirement age should be adjusted upward.

It was the community planners who provided a rationale for changing the retirement age. The community planners suggested the consequence unlimited potential. This increase in potential was due to the increased knowledge of the elderly. Compulsory schooling has been in effect throughout the lifetime of the future cohort of elders. Increased educational opportunities have resulted in a healthier group of senior citizens.

Better health and education may be responsible for another consequence

suggested by the women in research, that of political power. This power may be personal and it may be extended to others. This is evident from the Grey Panthers movement already in action during the past decade.

The women in research believed that the increased number of persons over 65 would result in a need for services to support independent living. Meals on Wheels already established in several countries and several parts of Canada should be continued. The older homes of the elderly would require increased home maintenance. Home nursing would be required.

Changed demand for housing was another consequence proposed by the women in research. They linked this changed demand to a large consequence: innovative housing.

Innovative housing may result in cooperatives. These would include cooperation between younger family members and the elderly in providing "granny flats" or elder cottages, in the same building or on the same lot, but ensuring privacy for both the younger and older generations. Some seniors do not have a family and in these cases home sharing might be a solution. Condominium living could also serve seniors. Condominiums already exist in some communities, but they would need to be increased in future.

Another aspect of innovative housing would be accessibility. Technological developments would make possible improved communication. Portable telephones, built in monitors, and safety pulls may link the senior to a central communication system. This would increase the safety of seniors.

Transportation change was another consequence suggested by women in research. One change would be increased links such as vans or mobile buses that pick a person up at their own home. It was foreseen that this service might operate by helicopter in future. Travelling sidewalks and covered walkways might assist seniors to exercise in all seasons. Transit passes have been available for some time, but the women in research suggested unrestricted passes.

Three consequences for innovative housing were mentioned but not developed. These were home care, urban development, and increased choice of housing.

#### Isolation as a problem for the elderly

Isolation was a consequence mentioned by both the gerontologists and the community planners. Most of the seven groups in the gerontological session mentioned isolation as a consequence. The comments are shown in Figure 2.

Both gerontologists and community planners were concerned about the social consequences of isolation. They felt that the housing provided might not be in the proximity of friends. Community resources such as volunteer driving or door-to-door transportation systems would be required to help friends meet. Unless the elderly remain in their lifetime home, they might not be comfortable with the neighborhood. Even remaining in the same neighborhood is not always the answer as the neighborhood may decline and the elderly may become

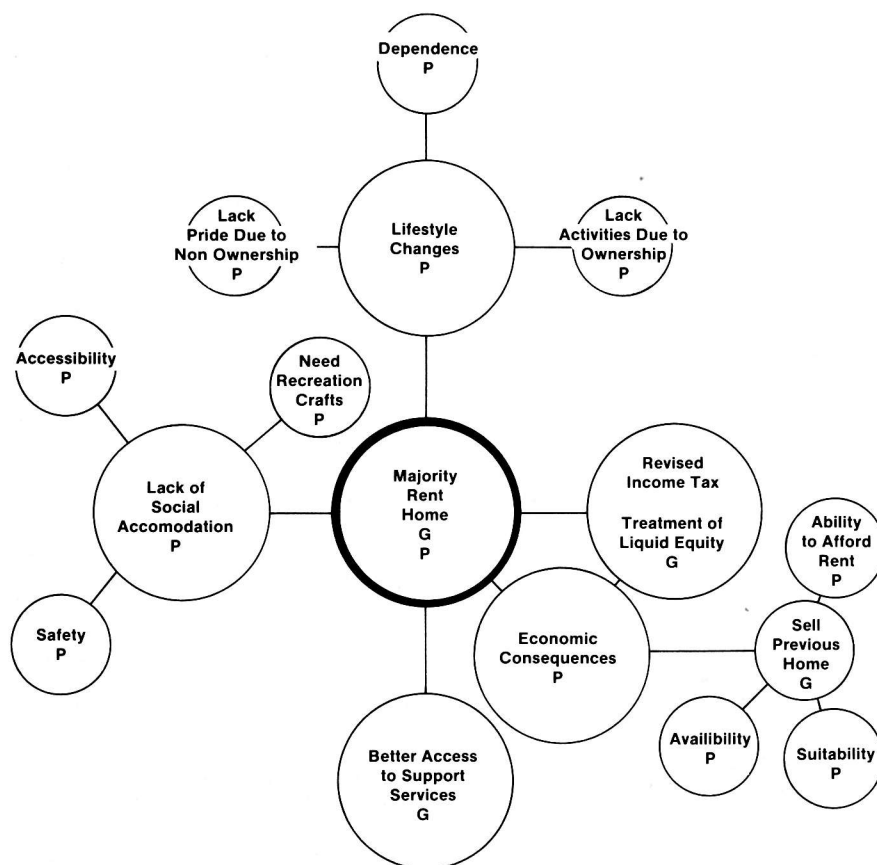


Figure 3. Consequences of Renting Housing

concerned for their personal safety. Seniors do like to participate in downtown amenities. Physical health and mental health may deteriorate from isolation.

Social isolation was a consequence related to physical health. Physical ability does lessen as one ages. Bedridden individuals suffer the greatest social isolation. Moving such an elderly person into a room which fronts onto a street and drawing the bed close to the window may prevent serious isolation. Another consequence of social isolation is the difficulty in taking part in leisure activities and enjoying recreation. The psychological orientation of the elderly person may also change from interest in others to self interest.

More outreach, information, and services may be required to prevent social isolation. The increase in such services may have an economic consequence in increased taxes. Home economists might develop self help programs to fulfill the needs of the elderly. Healthy senior citizens could

take care of others who are not so fortunate. A communal lifestyle may be suitable for other seniors.

Less family contact will be made in the future. To counteract this, two consequences are linked, the need for more volunteers and more home support such as home maintenance and home nursing. Family specialists within the home economics profession might develop intergenerational programs to replace the loss of family ties which may result from the lowered birthrate. Again, the elderly themselves can be involved in programs for mutual support, such as phoning trees.

Three other consequences were not developed. These were the problems that follow from bereavement of spouses and siblings. Buddy lines are mutual support systems. Depression may result from isolation.

**Majority of the elderly rent housing**  
The majority of the elderly will rent housing was a trend discussed by gerontologists and community planners. Five consequences were developed as shown in Figure 3.

Economic consequences were linked with a need to revise income tax, and to obtain liquid equity. The sale of the home would make it possible to afford the rent of suitable and available housing.

Better access to support services was considered to be a trend of renting the home. This might be due to a different location or type of housing.

The community planners thought there might be negative consequences in renting. Lack of social accommodation might result. There might not be sufficient space for recreational activities and crafts. Rental housing might be on several levels and access might be a limitation to some seniors. Security precautions would be required.

The final consequence mentioned by the community planners was lifestyle changes. Without home ownership there are certain activities that would no longer be available, such as painting and repairing. Persons who live in rental housing often lack the pride that owners hold in their home. Seniors who rent will become more dependent as they are no longer required to shovel snow, to cut grass, or to change light bulbs.

## Conclusion

The greatest similarity was the fear expressed by the three groups that isolation of the elderly would result in the future. Isolation must be considered when planning housing for an increased number of senior citizens. The Wagschal (1981) discussion technique did stimulate many comments. Some consequences of today will be continued in the future. The innovative housing suggestions proposed by the women in research are of special interest to housing policy makers. The proposed ideas might be incorporated into policy suggestions by advocacy groups. □

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## From the Guest Editor:

### Research Section

When I was first a student of gerontology, a professor of mine said that the only certainty about aging was that as we grow older we become "more so". Her statement meant little to me then. I had come from a tradition in which the study of human development required the mapping of patterns of similarity among people and families at particular points in the life course, mostly up to early adulthood. Models of child development left the impression of homogeneity of growth and development now being challenged on many fronts (Gilligan, 1982). And models of aging not only implied homogeneity but also decline. For example, in a figure describing various dimensions of the life course, Atchley (1983) described the last stage of the life course as old age; of occupational development as retirement, of family relations as widowhood, and dependency on children. The last stage of educational development was called graduate school and ended in the individual's mid twenties. Presumably social aging was at best a matter of no change and at worse of inevitable loss and dependency. Biological models of aging were similar, with the assumption that aging and diseases of aging were inseparable (Cunningham and Brookbank, 1988). Surely then, if there was any cliché about aging, it was that with age, people become "less so".

As Mary Engelmann points out in her paper in this issue, the assumption of aging as decline, has lead practitioners and policy makers to focus with some alarm on the aging of the Canadian population. The concern has been that large numbers of very old Canadians will strain health care and pension systems beyond their limits. Based on this model of aging, we entered an era in which we pressed for the construction of extended care facilities, for better public and private pension plans, and for the training of practitioners to work with the frail elderly.

Yet a new model of aging in Canada has begun to emerge. It is exemplified in such symbols as that of the 1987 annual meeting of the Canadian Association on Gerontology. The theme of that meeting was, *Aging with Excellence*; the logo, phases of the moon going from new to full. This view, according to Engelmann, is that of active, healthy aging. Perhaps her "aging as triumph" model is what my professor meant by aging as "more so". The new approach presumes that the next cohort may be like one another in a positive sense: better educated, better fed, more politically active, more independent.

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Dr. Keating conducts research in women and retirement, farm transfer, and family caregiving to relatives with Alzheimer's disease. For 1988/89 she has been awarded a McCalla Professorship to facilitate the writing of a book for the Butterworth's series on aging. The book will be entitled, *Aging in Rural Canada*.

In reviewing articles for this special issue I was reminded of the range of topics studied by those of us interested in aging. The three articles in the research section of this issue are indicative of this variety. They cover topics as diverse as demography, nutritional health, and learning. More than the diversity of topics, I was struck by the theme in all three of the variation between and among those who are now old. Lauris and Trovato discuss differences between men and women in death rates, and types and rates of chronic disease. Hurlbut addresses differences in expectations about their own abilities of groups of older adults. Gee, Ko, and Hawrysh temper their discussion of decline in taste perception with an analysis of differences in adequacy of dietary intake. The findings indicate that older Canadians are neither homogeneous because they share losses nor because they share assets, but are heterogeneous in many aspects of their lives. Perhaps rather than becoming better or worse, we become with age more of what we were. Presumably if people have had seventy or more years to develop their preferences and excentricities, they will be more dissimilar than those who are younger.

This presumption of diversity among older people will come as no surprise to Home Economics practitioners whose older clients have a variety of needs and interests. While dieticians need to know about therapeutic diets for frail, sedentary adults, they are also likely to be called upon for advice to athletes competing in seniors games. And although family life educators may be asked to provide programs for adult children worried about the dependencies of their parents, they need to have in their repertoires, programs for grandparents who wish to gracefully disengage from care of their grandchildren to take on new jobs or travel with new mates.

Developing this special issue on aging gave me the opportunity to work with many Canadian gerontologists from a variety of disciplinary backgrounds. I was also fortunate to work closely with Phyllis Johnson, the Editor of the Research Section of the Journal. I have been enriched by both experiences. □

Norah Keating

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## The Sex Mortality Differential of Aging Canadians, 1951-81

by Gloria Lauris and Frank Trovato

### Abstract

Although overall death rates and chronic disease mortality have been declining recently for both males and females in Canada, results of this analysis for the interval 1951 to 1981 indicate that, in some cases, rates of continued mortality decline among those aged 35 and over were greater for males than for females. These developments may be due in part to changes in social and lifestyle factors. The decline of chronic disease mortality for men is suggested to be affected by lifestyle improvements such as in diet and exercise, and in smoking cessation. Chronic disease mortality for women has been declining more slowly, partly due to the fact that women are increasingly adopting the *masculine sex role*, which often includes the stressful and negative lifestyle which men are beginning to abandon. One implication is that in the future, the sex ratio in the older ages will likely become more balanced, due to reductions in male mortality on the one hand, and increases in female mortality on the other.

### Résumé

Bien que le taux global de décès et de mortalité due à des maladies chroniques ait diminué récemment chez les femmes et hommes du Canada, les résultats de cette analyse pour la période de 1951 à 1981 indiquent, dans certains cas, que la baisse du taux de mortalité continu dans le groupe des 35 ans et plus était plus élevé chez les hommes que chez les femmes. Ces développements sont possiblement attribuables aux changements dans les facteurs sociaux et les modes de vie. La baisse du taux de mortalité due à des maladies chroniques chez les hommes serait explicable par des améliorations apportées à leur mode de vie, notamment l'alimentation, l'exercice et la cessation de fumer. Chez les femmes, le taux de mortalité résultant des maladies chroniques diminue plus lentement, en partie parce que les femmes adoptent de plus en plus le rôle du sexe masculin qui comporte souvent le mode de vie stressant et négatif que les hommes ont commencé à abandonner. L'une des implications soulignées est que dans les années à venir, le rapport entre les sexes chez les personnes âgées deviendra plus équilibré, étant donné la diminution de la mortalité chez les hommes d'une part, et l'augmentation des décès chez les femmes d'autre part.

This research examines the mortality ratio of middle-aged and elderly males to females in Canada. Differences in both general and degenerative disease mortality between the sexes are hypothesized to be partly a function of lifestyle factors affecting men and women differently (Statistics Canada, 1985; Weatherby, Nam, & Isaac, 1983). Greater stresses to the physiological system, such as

increased smoking (Retherford, 1975) and occupational stress (Waldron, 1976), experienced more by men, contribute to males' death rate. Because women have been increasingly adopting the *masculine sex role* (Gove & Hughes, 1979; Nathanson, 1984), it is hypothesized that the death rates from certain diseases between the sexes (especially at the early adult ages, when women are in the work force), will be narrowing, due to a large extent to lifestyle changes and associated consequences for health and illness, especially among women.

In operational terms, a ratio indicating the rate of mortality change over time between men and women is used to infer the extent to which lifestyle changes may be associated with differential mortality between the

sexes. If the ratio of the general death rate of women versus men (DRW/DRM), is increasing over time, then the general hypothesis will be tentatively supported. If women's rate of mortality is decreasing at a slower rate than men's, this is interpreted to reflect that lifestyle factors may be responsible for the slowing of females' advantage in the face of death in relation to men.

In recent times, lifestyle habits appear to be changing more dramatically for women than for men. Some of these changes include an increased consumption of cigarette smoking and alcohol, and exposure to stresses associated with occupational changes. It may be that many of the recent gains made by women in society are also accompanied by an increased risk of death from chronic diseases such as

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heart complications, cancer, and accidents or violence-related causes. Thus, there is reason to suspect that women's long-standing advantage over men in mortality may have begun to narrow in the last two decades or so.

Of course, a definitive test of the lifestyle hypothesis is not possible given that the appropriate data are not available. It is recognized that an effect attributable to *lifestyle change* among women may in actuality reflect other sources of variation, such as the possibility that a narrowing of women's relative advantage may be partly due to an increased rate of mortality that is attributable to their having reached a *plateau* or *peak* in life expectancy gains. It may be that women have very little improvement left in life expectancy, whereas men have still much to gain in this regard. Under such circumstances, a slowing of the female advantage relative to men is partly a reflection of gains made by men because they have more room for mortality improvement.

Such a narrowing of the differential can be interpreted in part as a reflection of improvements in men's lifestyles, such as increased awareness of the importance of good diet and exercise, stress reduction, and the abandonment of smoking. These are lifestyle changes serving to improve the males' mortality conditions in society. We are proposing that lifestyle changes in recent decades may serve to improve men's mortality levels, while at the same time, contribute to a deterioration of women's relative advantage in mortality over men because lifestyle changes for women entail the adoption of deleterious patterns of behavior (the masculine sex role), which are slowly being abandoned, or at least relaxed, by many men in contemporary society. We will return to this theme in the latter part of this paper.

#### Literature Review

##### Sex Mortality Differences in General Mortality

"Although the relative longevity of the female sex was observed as early as 1662 by John Graunt," wrote Nathanson (1984), "it is only in the twentieth century that the general public has become aware of the gap in death rates between the sexes" (p. 191). Recent data indicating that sex differences are now increasing at slower rates led Verbrugge (1980) to suggest that the

long-term advantage of females may be ending. McMillen (1982) reported that although the sex differential in the United States continued to increase through 1978, there is now some evidence of a slowing down or possible decline in the sex mortality differential.

Twentieth century declines in mortality in Canada (Lauris, 1987) and other developed countries have led to increased speculation on the role of social and environmental factors in mortality. Because the sexes in Canada coexist within the same economic, social, and medical environment, differences in their mortality rates have been plausibly interpreted as reflecting differences in exogenous factors, or as reflecting innate biological differences (Preston, 1976). Most researchers have expressed the opinion that both biological and behavioral/environmental sets of variables are involved in the etiology of sex mortality differences. For example, reviews of the literature by Cassel (1976) and Johnson (1977) suggested that women's favorable mortality experience may be attributable not to lower levels of the same risk factors that affect males but to different responses to the same risk factors or to a different set of strengths or vulnerabilities altogether.

##### Sex Mortality Differences in Degenerative Disease

**Cardiovascular disease.** Although it is difficult to attribute the recent decline in cardiovascular death rates to any one risk factor or set of variables, lifestyle habits have been suggested as at least partly responsible for this decline. Changes in lifestyle orientations include reduction in cigarette smoking, reduction in the intake of animal fats, and increased leisure-time physical activity. Among these factors, smoking is the most clearly linked to cardiovascular mortality (Crimmins, 1981; Nicholls, Nair, MacWilliam, Moen, & Mao, 1986; Ouellet, Romeder, & Lance, 1979; Wing et al., 1986).

Based on an international sample of mortality, Preston (1976) stated that 80% of the increase in sex differentials in mortality has been due to cardiovascular disease. Lopez (1983) suggested that this figure is actually closer to 50%. Undoubtedly, much of the increase in male excess mortality in this century has resulted from the widespread adoption of hazardous lifestyles by men and poor health habits in general.

These sex differences are largely regulated by sex roles and social conventions governing the behavior of males and females in society (Hetzel, 1983; Lopez, 1983). Further findings from Preston's data (1976) suggested that the consequences of modernization are different for the two sexes and relatively more positive for women than for men. He wrote, "economic modernization appears to raise systematically the level of male mortality relative to a certain level of female mortality, and this effect is particularly important for cardiovascular diseases" (p. 157). Preston stated that city living and nonagricultural work are likely proxies for unmeasured variables that represent particular features of the urban environment or characteristics of persons living therein (e.g., reduced exercise levels and increased cigarette smoking).

According to Gove and Hughes (1979), the masculine sex role which encompasses greater risk taking and the greater experience of occupational stress may also partially account for men's excess heart disease mortality.<sup>1</sup> Similarly, changes in personal behavior resulting from industrialization and increased wealth, e.g., excessive alcohol intake, accompanied by a general increase in caloric intake of animal fat, is also suspected of increasing heart disease mortality in males. This has led to a sedentary mode of life, with obesity often the result (Colburn & Baker, 1974; Confrey & Goldstein, 1960; Hetzel, 1983; Lopez, 1983; Moriyama, 1983). According to a study by Waldron (1976), three-quarters of excess male mortality in the United States may be explained by causes (heart disease, lung cancer, emphysema, accidents, cirrhosis of the liver, suicide) which are associated with behavior judged to be more socially acceptable for men (Peron & Strohmenger, 1985).

Women, on the other hand, have perhaps adapted better than men to the "atomization, rationalization and

<sup>1</sup>The stress itself may only indirectly affect mortality. In response to stress, men in Western countries tend to drink alcohol, while women tend to talk with friends and professionals and take psychotropic drugs. There appear to be significantly greater health hazards associated with men's heavy alcohol use than with women's psychotropic drug use, so this sex difference in stress response may contribute to men's higher mortality (Waldron, 1983; Verbrugge, 1983).

artificialities of modern life" (Bowerman, 1950, p. 77). With modernization, improvements in hygiene and medical technology may have operated to reduce females' cardiovascular diseases as well as mortality associated with complications of pregnancy (Lopez, 1983). The increasing number of women entering or re-entering the work force<sup>2</sup> and their adoption of positions of authority in the market place may have increased the death rate from stress-related diseases for women as they adopted more of the *masculine sex role* and associated negative lifestyles.

**Malignant neoplasms.** Lopez (1983) suggested that about 20% of the differential mortality between the sexes is due to malignant neoplasms, over 70% of which reflects the excess mortality of males from lung cancer. Recent evidence has pointed to the higher cigarette consumption of males as the single most important determinant of their increasing excess mortality, acting both as an independent risk factor and synergistically with others (*Chronic Diseases*, 1982; Hetzel, 1983; Lopez, 1983; Smith, 1976; Waldron, 1983; Wigle, 1978). Using data from a number of Western countries, Preston (1970) demonstrated that mortality trends for three diseases considered to be causally related to smoking — heart disease, lung cancer, and bronchitis — have largely accounted for national trends in the increasing sex mortality differential since 1930 (Lopez, 1983; Moriyama, 1983). The American Cancer Society reported in 1979 that smoking was responsible for 83% of the existing cases of lung cancer among men and about 43% of cases among women (Cockerham, 1982). Almost all the sex differences in trends from cancer in many countries can be ascribed to lung cancer (Preston, 1976). Cigarette smoking has affected male mortality more than female because males more commonly indulge and because

they appear to be more susceptible if they do (Millar, 1983; Ouellet et al. 1979; Preston, 1976). Miller (1980) investigated data from Amish rural communities in the United States where cigarette smoking was virtually nonexistent and he found no female longevity advantage (Miller & Gerstein, 1983). The implication is that males have generally adapted less well to the more comprehensive process of modernization and have adopted harmful life styles, like smoking, in response to the stress which has accompanied the modernization process (Hetzel, 1983; Lopez, 1983).

The increasing popularity of smoking among women is beginning to show a similar impact on female mortality patterns. American women, for instance, did not begin smoking in earnest until after World War II due to the breakdown of previous social taboos forbidding such behavior. Their rates of lung cancer are now matching the earlier rise among males, as lung cancer ranked eighth among cancer deaths for American women in 1961, but moved up to second by 1979. Similarly in Canada, lung cancer has risen from ninth position among cancer deaths in 1965 to second in 1981 (*Chronic Diseases*, 1983). Death rates from cancer increased in Canada by 32% among men from 1951 to 1983, but declined by 12% from 1951 to 1976 for women, although increasing from 1976 to 1983, particularly among those aged 55 to 74 (Wigle, Mao, Semenciw, & Morrison, 1986). Consequently, a dose-response effect will likely see death rates for women increasing in the future as more women adopt behavior, such as smoking and drinking, that in the past was generally more characteristic of men (Burbank, 1972; Cockerham, 1982).

Over one half of the sex mortality differential among adults in developed countries can be attributed to two causes of death: ischaemic heart disease and cancer of the lung (Lopez, 1983). Both are closely related to lifestyle practices such as cigarette smoking and unwholesome dietary habits which underlie the comparatively poor health position of older males. Recent findings suggested that smoking explains over 90% of the variance in respiratory cancer mortality, and 50% of the variance in heart disease mortality (Kirstein, 1984). Similarly, Preston and Weed's (1976) analysis of data for several countries

concluded that social and economic factors associated with modern societies have been influential on the sex differential death rate. They suggested that the work patterns and lifestyle which until recently were mainly associated with men, have led to lesser declines in the death rates for males than for females from chronic and degenerative diseases (Stone & Fletcher, 1980).

In summary, although our literature search is not exhaustive, research has suggested that the sex differential in mortality is due largely to degenerative diseases, which in turn are influenced to some extent by social lifestyle factors such as smoking and poor diet, which in the past were more closely associated with males. Our hypothesis is in keeping with this body of literature, and we propose that death rates between the sexes will be narrowing due to modernization and lifestyle changes.

## Data and Methods of Analysis

### Dependent Variable

**Mortality rate.** The chances of dying, as illustrated by the general (all causes combined) and cause-specific death rate, made up the dependent variables. Vital Statistics data were obtained from the Canadian Mortality Data Base, assembled by Statistics Canada (1951, 1961, 1971, 1981). The mortality data were cross-classified by period, sex and age, and rates were computed once the corresponding population data (denominators) had been merged with the mortality data. The population groups were taken from published census tabulations. A ratio of cause-specific death rates for women versus those for men were also examined.

### Independent Variables

**Year (or period).** The time periods studied were 1951, 1961, 1971, and 1981. Selecting Census years ensures availability of data, while providing population bases for Vital Statistics mortality data. The earliest year, 1951, was chosen because information from Vital Statistics regarding cause of death (from the Canadian Mortality Data Base) was listed only as far back as 1950. The most recent period, 1981, was the latest year for which census information is presently available.

**Age and sex.** Age was grouped into the following five categories for study: 35-44, 45-54, 55-64, 65-69, and 70+.

<sup>2</sup>Between 1970 and 1983, the number of women in the labor force in Canada rose by 2.3 million and the participation rate of women increased from 38% to 53%. During the same period, the number of men in the labor force increased by only 1.5 million and the male participation rate actually declined slightly. As a result, in 1983, women constituted 42% of the total labor force, up from 34% in 1970 (Statistics Canada, 1985). Similarly, labor force participation of wives with dependent children increased from 23.9% in 1961 to 39.7% in 1971 for those wives aged 35-44, and 21.0% to 34.8% in the same years for those aged 45-64 (Kalbach & McVey, 1979).



These groupings minimize empty cells in *low frequency* causes of death. The earliest age was chosen at age 35 as this is the approximate age at which chronic diseases begin to show prominence. The odd grouping at the older ages, i.e., 65-69 and 70+, was necessitated by the fixed age groupings in the Census population count in 1951. The 1951 Census established the basis (or, least common denominator) for the population grouping and age categories of the deceased for all subsequent years studied. A more refined classification for the oldest group would have been preferred, but this was not possible. The mortality data were analyzed for each sex.

**Cause of death.** The Ninth Revision of the International Classification of Diseases (ICD) was used to classify cause of death (World Health Organization, 1977). Three major categories of death groupings were chosen: cardiovascular disease mortality (codes in the 393-446 ICD range), malignant neoplasm mortality (codes within ICD 140-209), and all causes of death (codes 001-E999). The all causes of death category includes accidents and suicides and these differ from those causes of death having a physiological base. These major categories were selected because they constitute chronic diseases which are pertinent to causes of death for the older age groups. With chronic diseases the leading causes of death in Canada, it is important to study them in the context of an aging society.

### Analysis

In this study we examined the mortality of aging and aged Canadians from 1951 to 1981 by means of a *periodic analysis*. The method of periodic analysis involves making comparisons between rates of a particular manifestation, in this case death, in the age and sex groups of the population at each time period, and they are viewed in cross section at several points in time. Periodic analysis relates health phenomena prevailing at given periods to the environments prevailing at those periods. Cohort analysis, in comparison, illustrates mortality trends in a birth cohort by following a group's mortality experience through time.

<sup>3</sup>Data in Table 1 were used to calculate the female to male mortality ratios presented in Table 2. These ratios were then presented in graphic form in Figure 1.

This analysis, in a limited sense, was also applied in this paper.

### Limitations of the Study

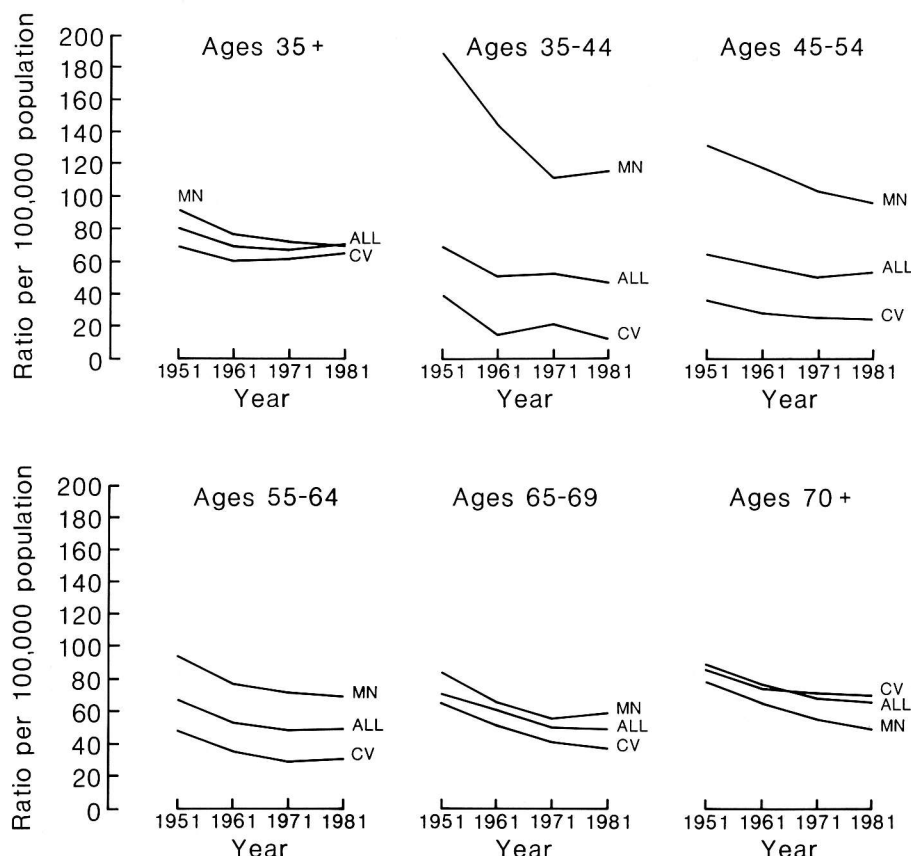
The design of the study may constitute a source of bias. For instance, a periodic analysis was utilized, and the causal assumption is of a current environment producing a current effect. The assumption of current effect may lead to error in interpreting time trends in health phenomena. Chronic diseases, for instance, may have a long latency interval between the operation of a cause and the manifestations of its effects. In periodic analysis, latent intervals of diseases are generally ignored. Periodic analysis cannot take into account the variation in phenomena that arises from the differences in the environment to which each age group in the population was exposed as society changed during the time preceding the observation (Susser, 1973).

There are limitations with cross-sectional data, and incorrect inferences can be drawn from such data in numerous ways. By being aware of such potential causes of error, proper caution can be taken. A final concern is the quality of the cause of death statistics. Revisions of the International Classification of Diseases may have created problems in comparability of data over time.

### Results

#### General Mortality

Figure 1 shows the relationship of female to male general mortality (i.e. all causes of death).<sup>3</sup> At a glance, it seems that the trend of this ratio at most of the ages has been to decline until 1961 or 1971 and then to level off or increase. The *decline* indicates that males' rates of mortality had declined more slowly over time than had women's up until about 1971. Assuming from the literature that males' lifestyles have been



**Figure 1.** Female to male mortality ratio for various ages and causes of death, Canada, 1951-1981. MN = Malignant neoplasm mortality; CV = Cardiovascular disease mortality; ALL = All causes of mortality. Data are from Table 2.

more deleterious to men's health than women's have been to their health, the decline implies that lifestyle had not affected women as deleteriously as men. The *increase* in the ratio or a slowed rate of decline in many age groups since 1971 seems to indicate that women's mortality rates are changing to their detriment, possibly due to a change in the nature of men's and women's social roles at ages 35 and over, and especially at ages 45-54 and 55-64. Increased stresses which could lead to increased mortality for women could be generated through heightened career and job aspirations as more and more women enter or re-enter the labor force and take on responsibilities of motherhood and career. Conrad (1962) and Waldron (1976) described the phenomenon of the "masculine sex role" which leads to greater risk-taking and a greater experience of occupational stress. With more women adopting increased responsibilities outside of the traditional *feminine* realm and adopting the *masculine sex role*, the accompanying stresses of such a role may be taking their toll. As evidenced by the trend in Figure 1, aggregate changes in social role do not usually occur overnight. In some cases, the beginnings of a stylized "u-shaped" pattern was shown as the change occurred over time, and the gap between men's and women's death rates narrowed. The hypothesis was not overwhelmingly supported by the general (all causes combined) mortality data, although it was supported for some of the age groups since 1971.

On the basis of a cohort analysis, examination of general mortality by ratio in Table 2 illustrated a decline until 1971 whereby the ratios increased. This was the case for ages 35-44, 45-54 and 55-64. These results are in keeping with the findings using the method of period analysis.

These findings raise questions regarding the nature of the mortality ratio: Is the male mortality rate declining, the female death rate increasing, or both? What trend is causing the ratio to begin to show a narrowing of the mortality gap between the sexes? An examination of the rates which form the ratios in Figure 1 (see Table 1), suggests that the changing ratio of female to male death rates was largely the case of continued and increased decline in the general male death rates while the decline in

**Table 1. Age- and Sex-Specific Unstandardized Mortality Rates (Per 1,000 Pop), for Canada, for Years 1951, 1961, 1971 and 1981**

Cause of Death	Males				Females			
	1951	1961	1971	1981	1951	1961	1971	1981
All causes of death								
35+	20.2	19.7	19.8	18.0	16.4	14.3	14.0	13.3
35-44	3.2	2.8	2.9	2.2	2.5	1.6	1.7	1.2
45-54	8.1	7.4	7.3	6.0	5.4	4.2	3.8	3.3
55-64	19.9	18.9	18.2	15.4	12.9	10.1	8.9	7.8
65-69	34.6	35.3	34.5	30.3	24.8	21.4	17.3	15.1
70+	87.4	85.6	87.5	76.9	77.8	68.0	61.6	52.8
Cardiovascular disease								
35+	8.4	8.8	8.1	6.9	5.9	5.5	5.2	4.8
35-44	.9	.9	.7	.5	.4	.2	.2	.1
45-54	3.2	3.4	2.9	2.1	1.2	.9	.7	.5
55-64	8.8	8.8	7.9	6.0	4.2	3.3	2.4	1.9
65-69	15.0	16.3	14.8	12.1	9.3	8.8	6.4	4.8
70+	36.7	38.1	36.3	30.3	31.4	29.4	26.2	21.8
Malignant neoplasms								
35+	3.2	3.6	4.1	4.5	3.0	2.9	3.1	3.3
35-44	.4	.4	.5	.4	.8	.6	.6	.5
45-54	1.4	1.4	1.5	1.6	1.9	1.7	1.6	1.6
55-64	3.8	4.2	4.6	4.9	3.6	3.3	3.4	3.5
65-69	6.7	7.9	9.0	9.0	5.4	5.1	5.0	5.5
70+	11.8	14.0	16.0	17.1	9.4	9.1	9.2	9.2

**Note:** The unstandardized rates are obtained by taking the sum of the frequency of deaths by gender and age, divided by the sum of the frequency of the population alive by gender and age, and multiplied by 1,000. Data are from the Vital Statistics Canadian Mortality Data Base (Statistics Canada), and Census Data records. Rates are calculated via SPSSx on computer.

the female death rates has slowed in comparison. Modernization and lifestyle changes are, and have been, generally more advantageous to women than to men. Recently, with regard to mortality decline, there has been a change in this trend in that women's advantaged position began to show a slowing down.

#### Chronic Disease Mortality

Figure 1 also shows the possible beginning of a *u-shaped* pattern for both cardiovascular disease mortality and malignant neoplasm mortality, starting in 1971. For cardiovascular disease, this was most apparent for all ages 35+ as well as ages 55-64; for malignant neoplasms, this trend was clearest for ages 35-44 and 65-69. Although the other age groups did not show such a definite increase in the ratio, the decline shown has decreased in magnitude, or at least levelled off. The hypothesis is somewhat supported in principle: some factor(s), perhaps modernization and lifestyle, seem to have recently (since 1971) affected the female to male ratio of the chronic diseases at certain ages, as indicated by the expanding and then narrowing of the differences of the chronic death rates between the sexes. Again, the expanding ratio may indicate the

negative effects modernization and lifestyle have had on males, due to the males' higher rate of mortality; while the recent narrowing of the ratio may indicate modernization and lifestyles' negative effects on females due to the slowing in the decline in their rates of mortality. This implies that modernization (specifically changes in sex roles), has begun to negatively affect females' mortality in general, but also mortality due to cardiovascular (heart) disease, and malignant neoplasms (cancer). Or, females' mortality has reached a biological maximum, and lifestyle (or other) factors have continued to improve males' chances against premature mortality.

Examination of the ratios in Table 2 by cohort also demonstrated a marked increase in the cardiovascular (CV) mortality ratios at ages 35-44, 45-54 and 55-64 since 1961. This provides some support for the lifestyle hypothesis. Malignant neoplasm (MN) mortality, however, did not show any increase in the mortality ratios through cohort analysis, although a slowed decline may be discerned.

#### Discussion

It was hypothesized that differences in mortality between the sexes are

**Table 2. Female-Male Mortality Ratios per 100,000 Population for Canada, Specific Ages, for years 1951, 1961, 1971 and 1981**

Cause of Death	1951	1961	1971	1981
All causes of death				
35+	81.2	72.6	70.7	73.9
35-44	78.1	57.1	58.6	54.5
45-54	66.7	56.8	52.1	55.0
55-64	64.8	53.4	48.9	50.7
65-69	71.7	60.6	50.1	49.8
70+	89.0	79.4	70.4	68.7
Cardiovascular disease				
35+	70.2	62.5	64.2	69.6
35-44	44.4	22.2	28.6	20.0
45-54	37.5	26.5	24.1	23.8
55-64	47.7	37.5	30.4	31.7
65-69	62.0	54.0	43.2	39.7
70+	85.6	77.2	72.2	72.0
Malignant neoplasms				
35+	93.8	80.6	75.6	73.3
35-44	200.0	150.0	120.0	125.0
45-54	135.7	121.4	106.7	100.0
55-64	94.7	78.6	73.9	71.4
65-69	80.6	64.6	55.6	61.1
70+	79.7	65.0	57.5	53.8

Note: Ratios are determined by female death rates (for age group) divided by male death rates (for age group) multiplied by 100. Male and female mortality rates are taken from Table 1.

partly caused by lifestyle factors (Weatherby et al., 1983). Much of the increase in male excess mortality in this century may be attributed to the widespread adoption of hazardous life styles by men and poor health habits in general, largely regulated by sex roles and social conventions governing the behavior of males and females (Colburn & Baker, 1974; Hetzel, 1983; Lopez, 1983). Greater stresses to the organism such as smoking; (*Chronic Diseases*, 1982; Retherford, 1975; Wigle, 1978) and occupational stress (Waldron, 1976) experienced more by men, may help to explain the higher male death rate (Colburn & Baker, 1974; Gove & Hughes, 1979). With an increasing number of women adopting a *masculine sex role*, it was anticipated that in recent years the death rates between the sexes would be narrowing. A ratio of female to male death rates was computed in order to examine changes in relative mortality among the sexes over time.

Results showed that in Canada, this mortality ratio generally declined until 1961 or 1971, indicating continued, higher death rates by males. After 1971, an increase in several of the mortality ratios has been noted. This increase reflects the males' death rate as continuing to decline, while the females' rates slowed in its decline, implying that some exogenous factor

rather than innate biological component is likely at work. This provides support for the notion that negative lifestyle habits may be at least partly responsible for an increasingly harmful effect on females due to their slower pace of mortality decline. We interpret these patterns of change to represent the influence of recent lifestyle factors in mortality between the sexes. This is especially evident in the age group of 35-44 for malignant neoplasms, and for ages 35+ for cardiovascular disease and all causes of death.

Concerning neoplasms (MN) and cardiovascular mortality (CV), a "u-shape" pattern (i.e., decrease-stabilize-increase) was observed in a few cases. This further reinforces our earlier finding about overall mortality. Since 1971, the female to male ratio of chronic diseases has begun to narrow. In the graphs, the start of an upward trend of mortality since 1971 suggests females are starting to be affected deleteriously by lifestyle factors (reflected by a decreased pace of decline in mortality for females). The oldest ages often show a continued decline in mortality (i.e., a widening between male and female death rates), but at these older ages, it is suspected that women do not adopt the same degree of harmful aspects of the *masculine sex role* as do younger women in the labor force age group. More research is needed,

particularly to see if for women younger than 35, a slowing of their advantage relative to men has taken place, especially since these are the ages that are most directly affected by recent changes in sex roles and lifestyles.

## Conclusions

Sex mortality differentials still predominate in favor of women, though the differences appear recently to be decreasing. It was hypothesized that lifestyle factors may be influential in affecting men's mortality experience positively, while affecting women's mortality experience negatively. Or, it could be that women have reached a biological maximum which cannot be substantially improved upon, regardless of lifestyle or any other factor, unlike men. Research should be undertaken to help define the association between the biological, environmental, lifestyle, economic, and cultural determinants of sex mortality differentials and to attempt to separate their relative contribution to this phenomenon. More work is required to examine how changing sex roles translate into a changing mortality differential between the sexes. A more conclusive test for the lifestyle hypothesis might be addressed through a more extensive use of cohort analysis and the use of better data (e.g., yearly data, or at least data by five year age-groups and for a longer period of time).

The prospects for the future trend of sex differentials in mortality appear to depend largely on developments along two broad fronts: medical technology with respect to the effective treatment of chronic diseases; and prevention through more effective health education and encouragement of changes in personal behavior and lifestyle (Ouellet et al. 1979; Ruzicka & Lopez, 1983). Ruzicka and Lopez (1983) recommended research be done to examine ways in which men and women respond to emotional stress, especially those which have negative consequences for their physical health (such as smoking, alcohol abuse); and men's and women's acceptance of programs to alter their lifestyle behavior, and compliance with these programs. There are no doubt numerous other factors which critically affect one's chances of mortality and these should be addressed in addition to the lifestyle hypothesis.

We expect that if the observed patterns in the differential in the sex ratio persist into the future, there will be a slowed continuation of the increase in proportion and number of elderly women and of old elderly women in Canada. This will have important implications for our social and health care systems.

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# The Influence of Vicarious Experience on Self-Efficacy and Learning of Senior Adults

by Nancy L. Hurlbut

## Abstract

The influence of vicarious experience on both the elderly adult's learning and their subjective assessment of learning was examined. Elderly ( $n = 93$ ) and young ( $n = 85$ ) adults read a stereotypical story about a person who passed or failed tasks similar to the ones they were about to complete. Next, each subject learned two stories, answered 36 questions on them, and gave two predictions of their performance. Vicarious experience significantly influenced the two age groups' subjective assessment of, but not their actual, learning. The elderly person's evaluation of learning ability can be lowered or raised by interacting with older models who are performing poorly or well.

## Résumé

L'article examine l'influence du processus de substitution sur l'apprentissage chez les personnes âgées ainsi que l'évaluation subjective de cet apprentissage. Les adultes jeunes ( $n = 85$ ) et âgés ( $n = 93$ ) ont dû lire une histoire typique concernant une personne ayant réussi ou échoué à des tâches semblables à celles qu'ils sont sur le point d'accomplir. Chaque sujet apprend ensuite deux histoires, répond à 36 questions et donne deux prévisions de sa performance. Le processus de substitution a influencé de façon importante l'évaluation subjective de l'apprentissage, mais non l'apprentissage réel, dans les deux groupes d'âge. L'évaluation des aptitudes d'apprentissage chez les personnes plus âgées peut être abaissée ou augmentée au contact de modèles plus âgés qui réussissent bien ou mal leurs tâches.

It has been recognized that people of all ages can benefit from learning about family life (Arcus, 1987). This includes the elderly who have ongoing needs and face new situations which may require learning and adaptation (Arcus, 1987; "Home Economics Philosophy," 1962). To improve the quality of seniors' adaptation to their daily environment, it is important to combine knowledge about elderly adults' learning behavior with knowledge about their attitudes. These two aspects of the senior's learning are the focus of this paper.

Perceived personal efficacy, or an attitude of self-perceptions about one's functioning in the environment, partially determine what decisions elderly individuals make while adapting to daily environmental demands, and, in turn, what actions they will take (Bandura, 1981; Rodin & Langer, 1980). Bandura (1981) argues that elderly adults are in a stage of continual self-efficacy reappraisal and that they may incorrectly appraise

their actual ability. When they evaluate whether they can master a new task, they often overestimate or underestimate their ability. Overestimation may lead to repeated failure and underestimation may result in avoidance of activities. Since accurate appraisal is essential for successful adaptation, it is important to understand the factors that influence the elderly person's self-efficacy. This issue is explored in the present study by testing how stereotypes, operationalized as vicarious experiences, influence elderly adults' self-efficacy appraisals of their ability to learn new information.

Stereotyping, the process in which one group assigns one combination of traits to another group, could be considered a major problem facing the elderly population (Cox, 1984). Elderly adults are seen as slow thinkers, less creative than young adults, resistant to change, uninterested in new learning, and incompetent (Butler, 1975). These negative stereotypes may influence their self-efficacy, resulting in misappraisal of their abilities. In turn, interactions with their environment may be restricted. For instance, negative stereotypes may lower their sense of competence resulting in overestimation of reduced capacities. Alternatively, elderly persons may

overreact to the negative stereotypes, overestimate their abilities, and fail at the task. Both sequences of events diminish motivation to engage in activities (Bandura, 1981), ultimately causing abilities to decline (Rodin & Langer, 1980). This relationship between stereotypes, self-efficacy, and learning may account for some of the equivocal data on both self-efficacy appraisals and actual learning of elderly individuals.

Some have found no age differences between senior and young adults on self-efficacy estimates of learning performance (Kausler, Lichty, & Freund, 1985; Perlmutter, 1978). In these studies, elderly individuals accurately estimated their performance on learning tasks. Other studies have shown that elderly adults overestimate their learning performance (Bruce, Coyne, & Botwinick, 1982; Lachman & Jellalian, 1984; Lovelace & Marsh, 1985).

Research on actual learning performance has shown similar results. Older adults performed less well than younger adults (Craig, 1977; Poon, 1985) or there were no adult age differences (Labouvie-Vief, Campbell, Weaver, & Tannenhaus, 1979; Till & Walsh, 1980). Age differences were most likely when new conceptual

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information was being learned and with difficult learning tasks. Differences were less likely when elderly participants received more practice, were more familiar with the material to be learned, and had self-paced learning (Craik, 1977; Poon, 1985). One interpretation of these findings is that deficits are due to an interaction between the environment and the individual (Labouvie-Vief, 1985). The present research addresses this interpretation by studying whether vicarious experience in the form of a stereotypical story alters the elderly adult's self-efficacy evaluations and whether this relationship accounts for some of the age differences in learning.

Vicarious experiences are hypothesized to influence self-efficacy through the use of experiences of another person, real or symbolic, as a reference point for self-evaluation (Bandura, 1981). That is, the senior's self-efficacy partially depends upon how well other elderly are thought to have performed on a similar task. For example, elderly people often will not try a new grocery store because they believe they are too old to learn to find foods in new places. Their self-efficacy appraisal should be raised when they hear that other elderly learned to use the new grocery store and lowered when they hear that other elderly could not learn to use the new store. This may influence attempts to use the new store. Being exposed to the other elderly person's grocery store accomplishments is an example of vicarious experience. This relationship between vicarious experience and learning, parallels the relationship between stereotypes and learning discussed earlier.

People are particularly vulnerable to the effects of vicarious experiences when the symbolic person shares attributes with them and when they have little recent performance accomplishments on which to base their performance predictions (Bandura, 1981). Since elderly adults in this study had little recent experience performing academic learning tasks, they should be susceptible to the effects of vicarious experience in this study.

The purpose of this study was to determine the effects of two types of vicarious experience on elderly adults' self-efficacy appraisals and actual learning performance and to determine whether these effects depend upon the participant's age group. The two types of vicarious experience were:

- a peer's success or failure and
- other people's negative stereotypical reaction or positive reaction to the peer's behavior.

University students were used as a comparison group. Since they have had much recent experience with academic learning tasks, they should not be susceptible to the effects of the vicarious experience. It was hypothesized:

- The elderly participants who received the negative vicarious experiences (a peer's failure and/or a peer receiving negative stereotypical reactions) would give lower self-efficacy appraisals and lower learning scores than those who received the positive vicarious experience (a peer's success and/or a peer receiving positive reactions).
- The university student's self-efficacy appraisal and actual learning performance would not be influenced by the vicarious experience.

## Method

### Participants

Ninety-three elderly volunteers ( $M$  age = 69.14,  $SD$  = 5.74) and 85 university students ( $M$  age = 19.51,  $SD$  = 2.24) were randomly assigned to one of four vicarious experience treatment groups. The older group was contacted through the University of Alberta's Spring Session for Seniors and through a newspaper advertisement. The university students were contacted through the Department of Psychology subject pool.

The participants were given four subscales of the Wechsler Memory test to determine whether the sample represented the population in terms of learning performance. Mean scores were within one standard deviation of the norms by Wechsler and Stone (1973) which indicates that the sample may be representative of the general population. The one exception was the associative learning subscale on which the young scored greater than one standard deviation above the mean. A multivariate analysis of variance of age group differences indicated that the young participants scored significantly higher than the elderly participants on all of the Wechsler memory measures except the logical memory subscale in which there was no significant age difference.

Ninety-two percent of the participants reported that they were in good

or excellent health with the remainder in fair health. There was no difference between the young ( $M$  = 12.92 years,  $SD$  = 1.06) and elderly ( $M$  = 13.11 years,  $SD$  = 2.99) in years of education; however, their scores indicated an atypically well-educated sample. Only 15.4% of Canada's seniors and 18.6% of Canada's 15-24 year olds have had as much education as the present sample (Statistics Canada, 1984).

The older adults received free parking and an additional \$4.00 to cover their transportation expenses. The university students, who were unpaid, received course credit.

### Materials

All materials were administered through a paper and pencil method in one packet.

**Pre-study memory task.** All participants were given the logical memory, memory span, visual reproduction, and associative learning subscales of the Wechsler Memory Test (Wechsler & Stone, 1973). The subscale raw scores were used to describe the sample and to get a measure of external validity.

**Vicarious experience task.** The factor of vicarious experience was manipulated by adapting methods used by Banziger and Drevenstedt (1982). The participants read a story about a person (Sanders), who decided to further her/his education. Before Sanders was allowed to enrol in university, he/she had to pass a series of learning tasks by receiving a mark of 75% or greater. The stories varied in terms of:

- story outcome, Sanders passed by scoring above 75% and in the upper 10% of participants or failed by scoring below 75% and in the lower 10% of participants;
- other's reaction, Sanders received a negative stereotypic reaction from his family, friends, and university personnel or a positive reaction;
- age, Sanders was 20 or 65 years old; and
- gender, Sanders was a male (Raymond Sanders) or female (Catherine Sanders).

The reaction treatment was presented in three sentences. For the negative stereotypic reaction, the elderly Sanders was discouraged from returning to university because he/she was too old and the young Sanders

because he/she had poor marks. For the positive reaction, the elderly Sanders was encouraged to return to university because old people offer a lot to the classroom and the young Sanders was encouraged because average students offer much to the classroom. Story outcome and others' reactions varied across age groups whereas age and gender did not. Participants read only the story that matched their gender and age group.

The story was followed by ten attributional items such as age. Each item was rated on a 5-point rating scale as to the likelihood that Sanders' performance was due to that factor. This was used to increase the participant's attention to studying the story's content.

**Learning tasks.** The study material consisted of two essays and one short practice essay. One essay (565 words) was about the process of communication. The other essay (625 words) was about money management. The practice essay (100 words) was about Canada geese. The test material consisted of 18 multiple choice questions from each story (36 total). The questions were divided equally between knowledge and comprehension items (Bloom, 1956), plus two practice questions. Knowledge questions tested specific details; comprehension questions tested implicit ideas developed in the essay. Participants read one essay, answered 18 questions, and then proceeded to the second essay. The essays were presented in one of two random orders.

**Performance predictions.** Self-efficacy was tested by asking the participants to give two estimates of their performance on the learning task. The measures were similar to those described by Lovelace and Marsh (1985) and were:

- prior judgments about how well one would do on a particular task (pre-task performance predictions) and
- judgments of how well one actually performed on a particular task (post-task performance predictions).

**Demographic questionnaires.** Two demographic questionnaires, one for the elderly participants and one for the university students, were used to gather background information such as the participant's age, education, and health condition. This information was used to describe the sample.

## Procedure

Participants were interviewed at the university. First, they completed the Wechsler Memory subscales. Standard procedures were used for the logical memory, memory span, and the associate learning subscales, except the experimenter read the material aloud and the participants wrote their recall in booklets. For the visual reproduction test, the participants were shown each figure for 10 seconds and drew that figure from memory before the next figure was presented.

After completing the Wechsler Memory subscales, the elderly participants took a 10-15 minute coffee break. The young participants chose not to have a break.

Second, participants were instructed to read the story about Sanders and to complete the ten attributional items. The participants were not told the purpose of the Sanders story until they had completed the study because knowing the purpose may have altered the effect of the vicarious experience.

Next, they made their pre-task performance predictions and did the learning tasks. This was followed by the post-task performance predictions. Finally, they completed the demographic questionnaire.

The instructions for these tasks were written at the top of each page so that once the participants began reading about the vicarious experience, they proceeded with the remaining tasks on their own and at their own pace. The elderly took about twice as long as the young. No one took more than 3 hours to complete all tasks. All materials were written in a booklet organized so that the participants could not refer to earlier tasks after completing that task. For the learning tasks, all test questions were answered from memory.

## Results

A repeated measures analysis of variance using the multivariate solution was used to analyze the performance prediction measures. The between subject variables were age group, outcome, and others' reaction; the repeated variable was the performance prediction for the pre-task and post-task. This analysis resulted in a significant main effect for age group,  $F(1,170) = 22.30, p = .000$ , and a significant main effect of outcome,  $F(1,170) = 6.89, p = .009$ .

**Table 1. Mean Performance Predictions as a Function of Age Group and Outcome**

Variables	Performance Predictions		
	<i>n</i>	<i>M</i>	<i>SD</i>
Age group			
Young	85	75	9.42
Elderly	93	67	11.59
Outcome			
Upper	91	73	10.94
Lower	87	69	11.16

Note: Performance predictions are presented in terms of percentages.

Table 1 indicates that the seniors gave a lower performance prediction than the young. The lower outcome treatment group also gave a lower prediction than that given by the upper outcome treatment group.

A second analysis revealed that more elderly participants thought they had failed (an estimate of less than 75%) than had passed the tasks (an estimate of 75% or greater). To test this, the data were divided into two groups according to the frequency of participants who gave a passing score and those who gave a failing score. Then a log linear goodness-of-fit contingency table analysis was done on Age group x Outcome x Pre-Task performance predictions x Post-task performance predictions. According to Knoke and Burke (1980), such log-linear analyses, like chi-square tests of independence, are used to test for an association between dichotomous variables. In addition, the log-linear analysis can be used with multilevel crosstabulations. It is used to test the odds of a person being in one category versus another. Z scores are used. If the z in this study is significant, then the odds of a participant giving a passing score were not equal for the different groups.

This analysis revealed 3, two-way interactions and no other significant effects. The null hypotheses of independence between age and the pre-task estimate,  $z = -3.19, p = .002$ , and of independence between outcome and the post-task estimate,  $z = 1.74, p = .041$ , one-tailed, were rejected.

Table 2 shows that there were higher odds of young participants giving a passing estimate than a failing estimate whereas the odds for the elderly group were reversed. There was a similar trend for the outcome treatment groups. The upper treatment group



**Table 2. Percentage of Participants Estimating Passing or Failing Performance**

Group	Performance Predictions			
	Pass		Fail	
	<i>n</i>	Percentage <sup>a</sup>	<i>n</i>	Percentage <sup>a</sup>
Pre-task				
Young adults	59	69	26	31
Elderly adults	43	46	50	54
Post-task				
Upper treatment	57	63	34	37
Lower treatment	40	46	47	54

<sup>a</sup>Percentage was determined by dividing the *n* for the Group by Pass/Fail cell by the total *n* for that group.

responded like the young adults; the lower treatment group like the elderly adults.

The third significant effect from the log linear analysis was that the null hypothesis of independence between the pre-task and the post-task estimates,  $z = 5.83$ ,  $p = .000$ , was rejected. The odds that participants would be in the passing self-efficacy group instead of the failing self-efficacy group were higher for the pre-task estimate than the post-task estimate. This indicates that more participants gave passing self-efficacy evaluations before than after completing the learning tasks (57% and 54% of the sample, respectively.)

An Age group  $\times$  Outcome  $\times$  Reaction analysis of variance on the actual learning scores revealed a main effect for age group,  $F(1,170) = 46.10$ ,  $p = .000$ . The young ( $M = 25.16$ ,  $SD = 3.83$ ) outscored the seniors ( $M = 20.92$ ,  $SD = 4.35$ ). There were no learning effects due to the outcome or reaction treatments. It is possible that the lack of treatment effect was due to initial learning abilities. An analysis of covariance using the five Wechsler scores as the covariates indicated that this was not the case. It gave the same pattern of results.

The final analysis was done to determine the accuracy of the performance estimates. Accuracy scores were calculated by subtracting the participant's actual learning score from her/his pre- and post-task performance predictions. The accuracy scores for all groups were positive, indicating that the participants overestimated their performance. An Age group  $\times$  Outcome  $\times$  Reaction analysis of variance was done for the two accuracy scores. Only the age main effect for the post-task accuracy score reached significance,  $F(1,170) = 6.50$ ,  $p = .012$ . After the learning tasks, the young group gave a

more accurate estimate of their scores ( $M = 1.79$ ,  $SD = 3.87$ ) than that given by the elderly group ( $M = 3.61$ ,  $SD = 5.34$ ).

## Discussion

The data lend partial support to the hypothesis that seniors' self-efficacy is influenced by stereotypes in the form of vicarious experiences. The story outcome influenced the elderly participants' self-efficacy evaluations. Those elderly who read about an older person who failed tasks similar to the ones they were about to take, gave a lower estimate of their own performance on the tasks than that given by elderly who read about a person who passed the tasks. The stories also varied by the reaction given by family and university officials to Sanders' desired behavior. This form of vicarious experience did not influence either the elderly or the young group's self-efficacy. Such data suggest that simply informing elderly adults that they will perform well on learning tasks does not change their evaluation of their learning ability. Instead, the elderly learner needs to interact with older people who are performing well.

These data are consistent with Cox's (1984) prediction that stereotyping is problematic for the elderly. The results indicate that the type of stereotype is important. That is, stereotypes influenced the elderly's sense of competence when they portrayed direct behavioral outcomes (passing or failing a learning task) but not when they used others' opinions, as in the reaction treatment.

Vicarious experiences indicating that seniors perform poorly on learning tasks add to their evaluation of themselves as too old to learn. The fact that the same effect was found for the undergraduate students was surprising but points to the pervasiveness of such experiences. It appears that even

a group of intellectually bright students are not impervious to symbolic modeling.

The data appear to present an anomaly with reference to how vicarious experience and stereotypes influence the seniors' learning performance. If stereotypes about the older learner are negative, these stereotypes should lead to low self-efficacy evaluations which should result in the seniors underestimating their performance. However, these data, like other data (Bruce et al., 1982; Lachman & Jelalian, 1984; Lovelace & Marsh, 1985), indicate that older learners overestimate their performance.

The seniors' overestimation could result from the seniors' imperviousness to stereotypes and an optimistic view about their own abilities, or it could result from an underestimation of task difficulty. The latter is the better explanation (Lovelace & Marsh, 1985). First, seniors are influenced by stereotypes such as those in the present outcome treatment. Second, even though elderly participants give overestimations, they have low performance expectations as evidenced in their casual statements about their learning ability (Lovelace & Marsh, 1985).

In contrast, the data support Lovelace and Marsh's (1985) hypothesis that seniors overestimate their performance because they lack experience which is necessary to adequately appraise the difficulty of the learning task. The significant age differences in the post-task accuracy scores suggest that, compared to university students, elderly adults did not adequately assess the difficulty of the task they had just performed. Other data also support the experience hypothesis. Lachman and Jelalian, (1984) found that seniors' self-efficacy estimates became more accurate over learning trials.

The senior's overestimation relates to the issue proposed by Bandura (1981) that self-efficacy evaluations affect learning. Such evaluations influence how much effort one will give to a specific task; how persistent one will be in the face of obstacles; how efficient one will be in performing the task; and whether learning behavior will be initiated in the first place. If, as the data indicated, vicarious experiences influence self-efficacy evaluations, then the elderly adult's actual perfor-

mance should be altered by vicarious experience. These data do not support this hypothesis. It may be that the most pervasive effect of lowered self-evaluation is the unwillingness to perform a task in the first place or to complete it when the task becomes too challenging. Once one is performing a task, one's self-efficacy evaluations may not be influential in one's actual score. Due to the present experimental procedure, the participants could not easily avoid beginning or completing the learning tasks. As such, the relationship between the differences in the self-efficacy evaluations and the elderly adult's willingness to perform a learning task could not be evaluated.

These data offer support to Bandura's (1981) theory that vicarious experience partially determines self-efficacy. It is noteworthy that the vicarious experience in this study was only a symbolic person. Bandura (1981) argued that the effect of such vicarious experience is generally weaker than the effect of personal experience. This prediction was the basis to the hypothesis that the elderly — not the young adults — would be influenced by the vicarious experience. The finding of no age differences suggests that Bandura may have underestimated the power of vicarious experiences.

Personal performance experiences also influence the elderly's self-efficacy. The data indicate that the young were not influenced by their actual performance whereas the elderly were influenced negatively. The analysis on the accuracy scores revealed that the error in the senior's appraisal increased after they actually experienced the learning tasks ( $M = 3.61$  after;  $M = 2.97$  before). The young's appraisal did not change ( $M = 1.79$  after;  $M = 1.54$  before). If the predictions of Bandura (1981) and Rodin and Langer (1980) are correct, the older adult's incorrect appraisals of their post-task performance may lead them to experience a sense of failure which will lead them to feel less competent. In time, they may avoid new tasks and eventually reduce their actual learning ability. This cycle must be interrupted. It is important to teach the elderly how to adequately appraise their performance.

### Summary and Conclusion

To improve the quality of seniors' adaptation to their daily environment, family life educators need to acknowl-

edge factors that influence learning (Arcus, 1987). One such factor is self-efficacy attitudes. Realistic and positive self-efficacy evaluations foster positive adaptation whereas unrealistic or negative self-efficacy evaluations foster negative adaptation (Bandura, 1981). Negative stereotypes, especially those that portray an older person performing inadequately, nurture low self-efficacy evaluations in the elderly.

The family life educator could use a peer education model to help seniors recognize these stereotypes, reject them, and then gain a realistic understanding of the competent elderly adult. A peer education model is recommended since elderly adults improve their self-efficacy when they interact with older models who are performing well. The educator could be a senior or have an aid who is an elderly person. This peer educator should function as a model from which the other seniors would vicariously experience success.

It is also important that these experiences be realistic. Expectations that are too high have detrimental effects on the older person's adaptation to the daily environment (Bandura, 1981; Rodin & Langer, 1980). This presents a dilemma to the family life educator whose objective is to optimize an older person's prestige in adapting to changing roles. One might be prone to raise the seniors' self-efficacy expectations unrealistically. Initially, this might increase their motivation and their attempts at acquiring new skills. With experience, seniors will learn that they are not achieving as expected and will lower their self-efficacy expectations. This experience of failure may ultimately lower their motivation, resulting in a withdrawal from further attempts at learning new adaptations to their changing roles. It behooves home economics professionals, family members, and the media to present a realistic and positive stereotype of the older adult.

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# Nutritional Health of Elderly Women: Evidence of a Relationship Between Dietary Intake and Taste Perception

by Margaret I. Gee, Susanna Y.Y. Ko, and Zenia J. Hawrysh

## Abstract

Suprathreshold taste perception and nutrient intake were assessed quantitatively for 30 elderly (70-79 years) and 30 young (29-29 years) women living independently in the community. Both taste intensity and taste pleasantness were evaluated by magnitude estimation (ME) for two taste qualities (sourness; saltiness) in each of two systems (aqueous; food). Dietary intakes (4 days) were assessed by a combination of dietary recall and food records. Comparison of ME for six suprathreshold concentrations by elderly and young revealed loss of taste perception with aging. The elderly had poorer diets than the young.

For the elderly, significant positive correlations were noted between percent risk of vitamin A deficiency and the slopes of all the taste intensity functions. The elderly subgroup with steeper slopes of taste intensity was at greater nutritional risk than the subgroup with flatter slopes. For some of the elderly women, deficits in taste perception were related to poor dietary intake.

## Résumé

Cet article se penche sur l'évaluation quantitative de la perception supraliminaire du goût et l'absorption de substances nutritives chez 30 femmes âgées (70-79 ans) et 30 jeunes (20-29 ans), vivant de façon indépendante dans la communauté. L'intensité et l'attrait du goût ont été évalués par estimation de l'ampleur (EA) pour deux qualités gustatives (aigreur; goût salé) dans chacun des deux systèmes (aqueux; alimentaire). Le régime alimentaire (4 jours) a été évalué par une combinaison de rappel diététique et de renseignements alimentaires. La comparaison EA pour six concentrations supraliminaires par sujet jeune et âgé a révélé la perte de perception du goût avec l'âge. Les femmes âgées avaient des régimes alimentaires plus pauvres que les jeunes.

Pour les personnes âgées, des corrélations positives importantes ont été notées entre le pourcentage de risque de carence en vitamine A et la chute de toutes les fonctions d'intensité du goût. Le sous-groupe plus âgé affichant des chutes plus accentuées d'intensité de goût comportait des risques nutritionnels plus élevés que le sous-groupe avec des chutes plus uniformes. Chez certaines femmes âgées, les déficiences dans la perception du goût étaient reliées à une absorption de substances alimentaires pauvre.

Many women are at nutritional risk; young women are susceptible to various nutritional anemias and elderly women are often subject to osteoporosis. Because of a low energy requirement, the

elderly woman often does not obtain an adequate supply of many nutrients (Elsborg, Nielsen, Bertram, Helms, Nielsen, & Rosenquist, 1983; Garry, Goodwin, Hunt, Hooper, & Leonard, 1982; Health and Welfare Canada, 1973; Yearick, Wang, & Piasis, 1980). Other factors influencing whether the elderly woman becomes malnourished include declining health, increased use of medication, income level, immobility, altered food selection, and whether or not the taste of food is appealing (Exton-Smith, 1980; Wagner, Bailey, Krista, Jernigan, Robinson, & Cerda, 1981). How taste perception is related to food selection and acceptance is not yet established.

Taste perception may diminish with age. A decrease in the number and size of taste buds with advancing age has been documented (Arey, Tremaine, &

Monzingo, 1935). In addition taste buds need an adequate supply of nutrients to function properly. However, information on the function of nutrients in the complex taste process is lacking.

Studies of the taste process have usually focussed on the measurement of taste threshold, the smallest concentration of a substance in water that a person can taste. Some changes in taste sensitivity with aging have been documented, but the results are inconsistent (Byrd & Gertman, 1959; Cohen & Gitman, 1959; Hermel, Schonwetter, & Samueloff, 1970; Schiffman, Hornack, & Reilly, 1979; Weiffenbach, Baum, & Burghauser, 1982). Researchers have begun to measure suprathreshold taste perception in foods. The evaluation of suprathreshold taste perception is

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preferable because it depicts the range typical of foods people consume (Bartoshuk, 1978).

To date, studies of suprathreshold concentrations of taste stimuli in model food systems have been limited. Little and Brinner (1984) found that elderly subjects had less ability to discriminate various salt levels in tomato juice and gave lower taste intensity and preference ratings than young subjects. However, Stevens and Lawless (1981) found no differences due to age using food model systems.

Whether elderly women have diminished taste perception is unclear. It has been established that they are at risk for nutrient deficiencies which may indirectly affect the taste process. The present study investigated relationships between dietary intake and taste perception for elderly women, living independently in the community.

## Method

**Subjects.** The subjects were 30 elderly (70-79 years of age) and 30 young (20-29 years of age) women who were living independently in the Edmonton area. All subjects were healthy with no known history of serious metabolic disease. Initially, a random sample was obtained from the Alberta Health Care Insurance files. Unfortunately, this method did not provide the required number of subjects (only 57% of the elderly group and 30% of the young group). Additional participants were obtained from volunteers, friends, and seniors' groups. Before the study each subject signed a consent form.

**Taste perception.** Suprathreshold taste perception was evaluated for both intensity and pleasantness using magnitude estimation (Stevens, 1957). Each subject is allowed to assign any positive number to a series of sensory stimuli so that the ratios of the numbers assigned reflect the ratios of taste perception values. A reference sample (REF), assigned a rating of 10, was used for comparison. For the sour taste quality, the REF was 12 mM citric acid; for the salt taste quality, the REF was 80 mM sodium chloride. The reference concentrations were above reported threshold levels for the elderly (Bartoshuk, Rifkin, Marks, & Bars, 1986).

For the two taste qualities (sour and salt), two series of samples were

prepared for evaluation: one comprising aqueous solutions; the other, simple foods. Six suprathreshold concentrations of reagent grade citric acid monohydrate (3, 6, 12, 24, and 36 mM) were prepared in: a) double distilled deionized water, and b) a specially formulated low-acid apple drink® (General Foods Ltd., Coburg, Ontario). For saltiness, six concentrations of sodium chloride (20, 40, 80, 160, 320, and 640 mM) were presented in: a) double distilled deionized water, and b) a low sodium chicken soup® (Stafford Foods Ltd.).

Samples (5 to 7 mL) were presented to the subjects in 30-mL disposable plastic medicups. Aqueous solutions were at room temperature ( $20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ); the apple drinks and soup samples were evaluated at  $12^{\circ}\text{C} \pm 2^{\circ}\text{C}$  and  $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , respectively. The 'sip and spit' procedure was standardized. At each tasting session, the subject evaluated six concentrations of the tastant in aqueous solution, followed in 10 to 15 minutes by six concentrations of the same tastant in the food system. There was a minimum of 20 seconds between the evaluation of each tastant. The six test solutions were presented in a partially randomized order [modification of Hyde and Feller's (1981) sequence order], so that no two consecutive samples differed in concentration by greater than four-fold. The REF was introduced twice, before the first unknown and before the fourth unknown to remind the subject of the REF intensity and pleasantness. A hidden REF was also evaluated. Each sample was evaluated on three different days. Half of the subjects began with the sour tastants and vice versa.

**Dietary intake.** Dietary intakes were assessed quantitatively for four days by a combination of dietary recall (one day) and food records (three days). Intakes for three weekdays and one weekend were obtained. Initially, a 24-hour recall of food intake was obtained. Each subject was asked to recall, in chronological order, all foods and beverages consumed the preceding day. Instructions for completing food records were provided to the subject. At the next visit the record was reviewed with the subject to clarify all details. Skilled probing by the researcher helped to ensure completeness and prevented omission of foods eaten. The initial 24-hour recall was used as a cross check for completeness

of information. For each subject, dietary assessments were conducted on three separate occasions by the Nutrition Canada technique of quantitative assessment using food models (Smith & Gee, 1979).

After the dietary interview, data for height, weight (using one portable spring scale), and triceps skinfold thickness (using Lange skinfold calipers) were collected from each subject.

## Data Handling and Statistical Analysis

**Taste perception.** Subjects recorded magnitude estimates on score cards. For each sample at each tastant concentration, triplicate intensity and pleasantness estimates of each subject were averaged and expressed as an individual value. Mean intensity estimates were not normalized; mean pleasantness estimates were normalized. Magnitude estimates were transformed to logarithms to linearize the relationship between taste response and concentration of solution. Slopes for the regression of taste intensity on concentration were then computed for each subject.

**Dietary intake.** Each food item was coded using standardized procedures. Nutrient intake was calculated by the mainframe computer using a program based upon the Canadian Nutrient File (Bureau of Nutritional Sciences, 1983a). Data were obtained for 23 nutrients including dietary fiber, cholesterol, and zinc obtained from other sources (Feeley, Criner, & Watt, 1972; Freeland-Graves, Ebangit, & Bodzy, 1980; McNeill, Ali, & Song, 1985; Murphy, Willis, & Watt, 1975; Paul & Southgate, 1978). The averaged 4-day intakes were expressed as intake per day for each subject.

Nutrient intakes were also assessed for the probability of risk that the observed intake is inadequate for the described individual, using a software package (Beaton, 1984) on an Apple IIe microcomputer (Anderson, Peterson, & Beaton, 1982). Using this statistical approach for interpreting dietary data, the lower the intake is in relation to the recommended intake (RNI), the greater is the risk that it is inadequate to meet the individual's actual requirement. For each subject, an index of overall nutritional risk was calculated as the average of the percent risk of deficiency for each of 12 nutrients (protein, thiamin, riboflavin, folacin, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, vitamin A,



vitamin D, ascorbic acid, calcium, iron, and zinc).

**Statistical analysis.** Relationships between and among the various taste and dietary measurements were examined. Statistical significance was determined by Student's t-test, analysis of variance (ANOVA), Pearson correlations and multivariate analysis (canonical correlations), using the SPSSx statistical package.

## Results

In this study the elderly and young female participants had mean ages of 73.7 and 24.3 years, respectively. Statistical analysis revealed that the elderly group was significantly shorter (159 cm vs. 164 cm) and heavier (69.0 kg vs. 58.2 kg) than the young group. Mean triceps skinfold measurements were 26.9 mm for the elderly and 19.8 mm for the young.

Mean daily nutrient intakes (Table 1) indicate that the energy intake of the elderly (1560 kcal/day) was significantly less ( $p < .001$ ) than that of the young (1893 kcal/day). For both groups, the proportions of energy derived from protein (15%), fat (36% for the elderly and 33% for the young), and carbohydrate (48% for the elderly and 51% for the young) were similar. However, intakes of the following nutrients were significantly lower for the elderly group than for the young group: the energy intake and the intakes of protein, total carbohydrate, sugar, starch, riboflavin, calcium, phosphorus, sodium, and zinc. For the elderly, the mean intakes of calcium, zinc, and folacin were below the recommended levels (Bureau of Nutritional Sciences, 1983b); for the young, the mean intake of iron was below the recommended level.

Averages tend to obscure the range in individual nutrient intakes. Table 2 shows a prediction of the risk of inadequate intake. High risk was more frequent among the elderly than the young. For the elderly, the nutrients with the greatest risk of inadequacy were folacin, calcium, zinc, vitamin A, and vitamin D. For the young, the nutrients with the greatest risk of inadequacy were folacin, vitamin A, zinc, vitamin D, and iron.

Figure 1 presents the taste intensity functions for sourness in aqueous and food systems for both age groups. For the elderly, the average slopes of the taste intensity functions for sourness

**Table 1. Mean Daily Nutrient Intake**

Nutrient	Elderly <sup>a</sup> M ± SEM <sup>b</sup>	Young <sup>a</sup> M ± SEM
Energy (kcal)	1560 ± 66	1893 ± 67***
Protein (g)	59.8 ± 2.3	72.0 ± 3.3***
Fat		
Total (g)	64.6 ± 3.8	71.3 ± 3.4
Cholesterol (mg)	295 ± 22	303 ± 23
Carbohydrate		
Total (g)	194 ± 10	244 ± 10***
Dietary fiber (g)	18.4 ± 1.6	16.7 ± 1.2
Sugar (g)	91 ± 6	115 ± 6***
Starch (g)	82 ± 4	105 ± 6***
Thiamin (mg)	1.30 ± 0.07	1.36 ± 0.07
Riboflavin (mg)	1.50 ± 0.08	1.75 ± 0.10*
Preformed niacin (mg)	14.8 ± 0.8	16.7 ± 0.9
Vitamin B <sub>6</sub> (mg)	1.3 ± 0.1	1.5 ± 0.1
Vitamin B <sub>12</sub> (mcg)	3.8 ± 0.7	4.7 ± 1.0
Total folacin (mcg)	178 ± 14	200 ± 13
Ascorbic acid (mg)	123 ± 12	147 ± 15
Vitamin A (RE)	1148 ± 161	1247 ± 204
Vitamin A (IU)	6283 ± 690	6982 ± 843
Vitamin D (IU)	186 ± 16	189 ± 18
Calcium (mg)	758 ± 45	1003 ± 66**
Phosphorus (mg)	1142 ± 60	1382 ± 68**
Iron (mg)	12.5 ± 0.6	13.2 ± 0.5
Sodium (mg)	2240 ± 111	2635 ± 143*
Potassium (mg)	2568 ± 151	2900 ± 122
Zinc (mg)	7.8 ± 0.4	9.3 ± 0.5*

<sup>a</sup>n = 30.

<sup>b</sup>mean ± standard error of the mean.

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

in both systems were flatter than for the young group: in the aqueous system, 0.47 vs. 0.77 ( $p < .001$ ) and in the food system, 0.33 vs. 0.60 ( $p < .001$ ). For both systems, significant age x concentration interactions were found ( $p < .001$ ).

Mean taste intensity functions for saltiness in aqueous and food systems

for both age groups appear in Figure 2. For the aqueous system only, the mean slope of the taste function for the elderly was significantly flatter than the mean slope for the young: in the aqueous system, 0.50 vs. 0.71 ( $p < .001$ ) and in the food system, 0.42 vs. 0.50 (N.S.). For saltiness, a significant age x concentration interaction was found in the aqueous system ( $p < .001$ ).

**Table 2. Mean Percent Risk<sup>a</sup> of Inadequate Intake**

Nutrient	Elderly <sup>b</sup> M ± SEM <sup>c</sup>	Young <sup>b</sup> M ± SEM
	(%)	(%)
Protein	7.0 ± 3.8	0.2 ± 0.2
Thiamin	2.9 ± 1.8	0.1 ± 0.1
Riboflavin	4.1 ± 2.9	0.2 ± 0.2
Vitamin B <sub>6</sub>	0.2 ± 0.2	1.4 ± 0.7
Vitamin B <sub>12</sub>	3.7 ± 3.3	2.3 ± 1.8
Total folacin	39.0 ± 7.5	16.1 ± 5.2*
Ascorbic acid	5.9 ± 4.0	1.8 ± 1.5
Vitamin A	11.6 ± 5.0	10.9 ± 4.9
Vitamin D	11.2 ± 5.2	9.6 ± 5.0
Calcium	31.1 ± 7.2	6.1 ± 3.5**
Iron	0.2 ± 0.1	8.7 ± 1.3***
Zinc	23.3 ± 6.4	10.6 ± 3.6

<sup>a</sup>Microcomputer software package "Probability Assessment of Nutrient Intake". (Beaton, 1984).

<sup>b</sup>n = 30.

<sup>c</sup>mean ± standard error of the mean.

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

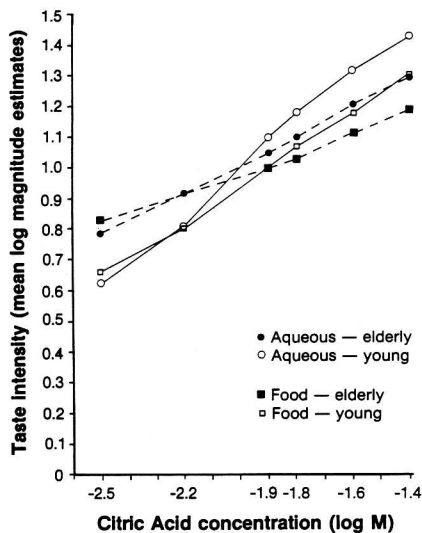


Figure 1. Mean taste intensity estimates of citric acid (sourness) in aqueous and food systems.

Comparison of the aqueous and food systems revealed that the mean taste intensity slopes for food systems were consistently flatter. For sourness, the slopes for the food system were 0.33 for the elderly and 0.60 for the young; these values were significantly lower ( $p < .05$ ) than those for the aqueous system, 0.47 and 0.77 for the elderly and young, respectively. For saltiness, the slope for the food system for the young was 0.50, significantly lower ( $p < .001$ ) than 0.71 for the aqueous system.

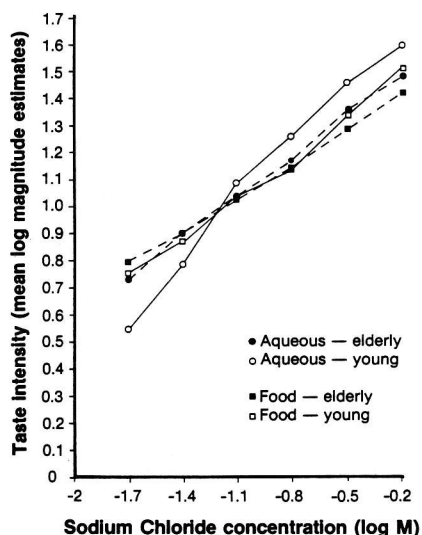


Figure 2. Mean taste intensity estimates of sodium chloride (saltiness) in aqueous and food systems.

Figure 3 shows the pleasantness functions for sourness in aqueous and food systems for both age groups. In the aqueous system, the young subjects rated the lowest concentration of citric acid to be the most pleasant. At the lower concentrations of citric acid in water, the curve for the elderly showed a plateau, indicating that each of these concentrations was found to be pleasant. In the food system, the relationship between pleasantness ratings and citric acid concentration was parabolic, indicating that both age groups preferred the middle sour concentration. For pleasantness, the age  $\times$  concentration interaction was significant ( $p < .001$ ) for sourness in the aqueous system. For both age groups, significant differences in sourness pleasantness ratings were found between aqueous and food systems; the system  $\times$  concentration interaction was significant ( $p < .001$ ).

For the salty aqueous system (Figure 4), the shape of the pleasantness curve generated by the elderly and the young differed; for the elderly the curve was parabolic, whereas for the young a decreasing relationship was observed. In the food system, both groups showed a parabolic function. A significant age  $\times$  concentration interaction was found in aqueous solutions ( $p < .01$ ). For pleasantness responses of the young group, significant effects of system ( $p < .05$ ) and system  $\times$  concentration interaction ( $p < .001$ ) were revealed.

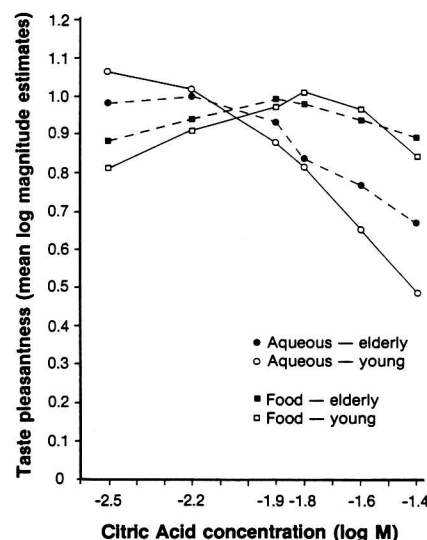


Figure 3. Mean taste pleasantness estimates of citric acid in aqueous and food systems.

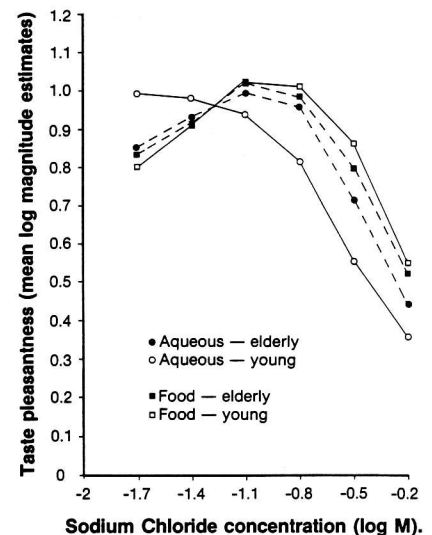


Figure 4. Mean taste pleasantness estimates of sodium chloride in aqueous and food systems.

**Range of variability of taste intensity data.** To consider the range in individual values for the average slopes of taste intensity within each age group, the slopes of taste intensity functions were ranked in decreasing order. Two equal subgroups were created: subgroup I with steeper taste intensity slopes and subgroup II with flatter slopes.

For the aqueous systems, the mean slopes of taste intensity were as follows: for the elderly, for subgroups I and II respectively, 0.64 and 0.30 for sourness and 0.66 and 0.34 for saltiness. For the young, for subgroups I and II respectively, 0.99 and 0.55 for sourness and 0.89 and 0.52 for saltiness.

For the food systems, the mean slopes of taste intensity were as follows: for the elderly, for subgroups I and II respectively, 0.50 and 0.15 for sourness and 0.57 and 0.27 for saltiness. For the young, for subgroups I and II respectively, 0.80 and 0.39 for sourness and 0.65 and 0.36 for saltiness.

For both age groups, subgroup I with steeper slopes, exhibited larger variability in intensity ratings than subgroup II. Pleasantness response data for both age groups show that subgroup I subjects exhibited larger variability in pleasantness ratings, narrower ranges of preferences, and a greater dislike of stimulus concentrations at both limits of the suprathreshold range than did subgroup II subjects. The taste response for subgroup II subjects with flatter taste

intensity slopes was more stable and more reliable than that of subgroup I.

**Relationships between taste intensity data of subgroups and nutritional risk.** In the elderly, subgroup I ( $n = 15$ ) with steeper taste intensity slopes was at greater nutritional risk than subgroup II ( $n = 15$ ) with flatter slopes (Figures 5 and 6). The patterns of pleasantness responses revealed that for both age groups subgroup I exhibited strong likes and dislikes for both sourness and saltiness.

Statistical analysis of relationships between taste perception data and dietary intake measurements revealed a consistent positive correlation between the risk of vitamin A deficiency and the slope of taste intensity. For the elderly, significant positive correlations were found between the percent risk of vitamin A deficiency and the slopes of all taste functions; for sourness in the aqueous ( $p < .05$ ) and food systems ( $p < .05$ ); for saltiness in the aqueous ( $p < .05$ ) and food systems ( $p < .001$ ).

## Discussion

In the present study, taste perception of the elderly women was found to be less acute than that of the young for both sourness and saltiness. The results also showed that the effects of aging on suprathreshold taste sensation are less marked for saltiness than for sourness. Hyde and Feller (1981) noted that the age effect on the taste function of saltiness was less than that

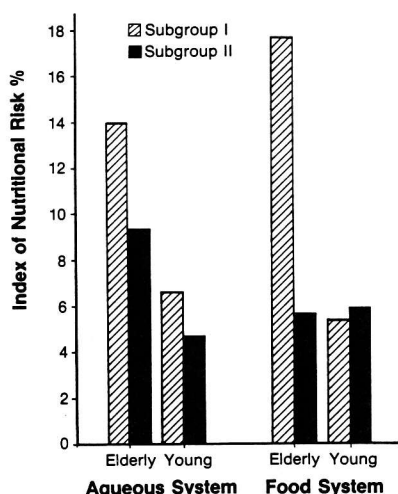


Figure 5. Overall nutritional risk (%) for the elderly and young subgroups: Sourness in aqueous and food systems.

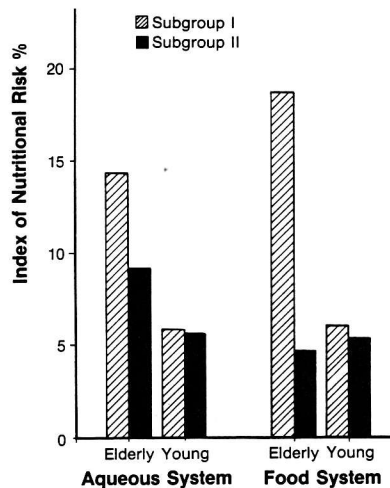


Figure 6. Overall nutritional risk (%) for the elderly and young subgroups: Saltiness in aqueous and food systems.

Data obtained for aqueous solutions and simple food systems were dissimilar. At high concentrations, mean intensity ratings of tastants were found to be significantly lower in the food system than in the aqueous system, although this difference was less for the elderly than for the young.

Taste pleasantness responses for the elderly and the young differed. Taste preference is important because it ultimately influences the type of diet we eat. Aging may make food taste less pleasant and thus diminish the enjoyment of eating. This could be a significant factor contributing to the dietary inadequacies often observed among the elderly.

The methodology used for the quantitative assessment of taste perception proved to be effective for testing both the elderly and the young. Magnitude estimation requires subjects to employ any numbers they think appropriate to express the apparent magnitude of the intensity or pleasantness of the stimulus. Use of a wide range of numbers may be more difficult for the elderly than for the young. However, an initial ME training session encouraged subjects to use a wide variety of numbers and to make ratio judgments.

The method used to assess dietary intake was also found to be efficacious. One researcher (S. Ko) collected all the dietary data and reviewed the food record with the subject each time to ensure that enough information was

obtained. Kohrs et al. (1980) used a combined recall and food record method and found that the food record overcame some of the problems encountered when one relies on the older individual to remember everything consumed. Every effort was made to collect reliable quantitative dietary data; serving sizes were carefully assessed using graduated food models. We cannot discount the possible effect of the technique of recording intake on the dietary habits of the subject. Although the usual intake of each group is reliably estimated by a short study period, it is more difficult to document the usual intake of each individual. By assessing intake for four days, rather than one day, adequate data may be obtained (Anderson et al., 1982; Schutz, 1981).

The dietary data collected in this study indicate that, in general, the elderly had poorer diets than the young. For the elderly, mean intakes of calcium (758 mg), zinc (7.8 mg) and folacin (178 mcg) were below the recommended levels of 800 mg, 8 mg, and 190 mcg, respectively. Energy and protein intakes of the elderly were significantly lower than those of the young. Seven percent of the elderly group were classified as being at risk for protein deficiency. The percent risk of inadequacy for folacin and calcium was significantly greater for the elderly than the young. Marginal nutritional status is of particular significance in the elderly because homeostatic mechanisms are often impaired and physiological balance may be more readily upset (Exton-Smith, 1972; Panel on Nutrition of the Elderly, 1972).

The quantitative assessment of taste perception revealed considerable individual variation for both intensity and pleasantness. For the elderly and young, greater deviation in taste intensity response was associated with an alteration in taste preference. Other researchers have described several distinctive preference response patterns to increasing taste stimulus intensity and have illustrated that subjects could be classified according to their preference responses (Lundgren et al., 1978; Trant & Pangborn, 1983).

For the elderly, a relationship was found between deviation in taste intensity response, as revealed by high values for slopes of taste intensity function (subgroup I) and the index of nutritional risk. For the elderly, the

mean index of nutritional risk was significantly higher for subgroup I than for subgroup II for both taste qualities in the food systems (sourness,  $p < .05$ ; saltiness,  $p < .01$ ). In contrast, for the young group, no relationship was found between taste parameters and index of nutritional risk. For both sourness and saltiness, the food system was more useful in discriminating among subgroups of elderly subjects than was the aqueous system.

Alterations in taste perception are significant because of their impact on food intake and perhaps dietary adequacy. Food intake may be optimized in elderly individuals by the development of more appetizing food products. Certainly taste should be considered as one factor which influences the food choices of the elderly. Changes in taste perception with aging have important implications for professionals working with older individuals.

### Conclusions

This study indicates that for some of the elderly there was a relationship between poor nutrient intake and aberration in taste function. The direction of the relationship between taste perception and dietary adequacy needs to be explored. It may be possible to improve taste perception for some of the elderly women by improving nutrient intake.

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If you are interested in reviewing a book, please contact the Book Review Editor, stating your area of interest. A complimentary book which may be kept will be sent to you for review.

**Book Review Editor**

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**Homes with Character** by Hazel Thompson Craig. (1987). Encino, California: Glencoe Publishing Company, 489 pages; Price Unknown.

The fifth edition of Hazel Thompson Craig's text, *Homes with Character*, is an excellent update of the previous edition.

The organization and content is very similar but has been revised to reflect recent changes in society. The content of the text has been expanded to include a chapter on future housing trends which incorporates technical changes such as home computers, CADD house plans, and assembly line houses; and social changes such as economic costs, changes in the family, and job opportunities.

The structure of the text is basically the same as the previous edition but a glossary of terms has been added at the beginning of each chapter and Features and Career Profiles are inserted throughout the chapters as supplementary resource material.

The overall appearance of the book is both attractive and appealing. Not only are the pictures and diagrams more colorful and up-to-date but also reflect societal changes such as egalitarian roles, the widening variety of family structures, and the multicultural heritage of North America.

A *Teacher's Resource Guide* is also available which includes objectives, resources, discussion questions and activities for each chapter. Sample tests

and overhead masters are also provided.

*Homes with Character* is a useful textbook for senior level housing courses at the secondary level but must be supplemented with Canadian resources, especially when dealing with housing programs and home financing.

Reviewed by:

Ann Scott, BAsC, BEd  
Department Head, Windsor Board of Education  
Windsor, ON

**Spinning Designer Yarns** by Diane Varney (1987). Loveland, Colorado, Interweave Press, 96 pages; \$12.00 US.

*Spinning Designer Yarns* is a book that would appeal primarily to a person who was already knowledgeable in yarn spinning and wanted to expand the uniqueness of their yarn structures. Ideally, a person who combines both an interest in spinning with weaving, knitting, or other fabric construction techniques would find this book particularly helpful in their total design experience.

The format of the book is very much how to in nature. Clear step by step instructions are given for achieving specific looks. The written instructions are accompanied by excellent line illustrations as well as large, close-up colour photos of the finished yarns. As such, it serves to inspire the reader to experiment with the techniques described within.

Also included in the book is a chapter on how to apply dye to fibre and yarn in new and fun ways, as well as creating blends and using commercial yarns in handspun projects.

This book would prove to be a good resource for students, faculty, and craftspeople who are interested in both the technical process and visual impact of handspun yarns.

Reviewed by:

Barbara Lanz, MSc  
Associate Professor,  
Department of Home Economics,  
Windsor, ON

**See How They Grow: Concepts In Child Development and Parenting** by Dr. Thomas Draper, Dr. Marilyn Ganong and Virginia Goodell. (1987). Encino, California: Glencoe Publishing Co., 392 pages; Text \$27.18, Student handbook \$7.44, Teacher's Guide \$11.00.

*See How They Grow* is written for the advanced or general high school student. This book is written not only to help the student clearly understand the process of child development but also to show how adults and other caregivers influence and are influenced by the children in their lives.

The authors have tried to emphasize the complex links and connections that make up the child's growth instead of just seeing development as a series of "ages and stages". Development is traced from conception to adolescence with emphasis being placed on making responsible decisions about parenting.

Each chapter starts with a brief scenario followed by two thought provoking questions to help introduce the topic. To supplement the key concepts of each chapter there are also some areas of special information. These are labelled "Of Interest", which explores child care in other cultures or countries; "Based On Fact" used to present statistics, graphs, or charts to supplement the material of the text; "Self Probe" offering thought provoking information; and "Careers" that offers profiles job possibilities. Each chapter is concluded by a summary that highlights the main ideas presented in that area. In addition there are two sections entitled "Terms To Know" and "Check Your Understanding" which may be used in reviewing

or as a personal guide to evaluate how well the material is understood.

There is also an excellent student workbook available to supplement the text. This handbook uses a variety of activities such as crossword puzzles, word scrambles, and observation sheets to help reinforce the key concepts of each chapter. A teacher's resource guide is also available. Overall, this text book and workbook are very useful resources for Family Studies classes.

Reviewed by:

Joanne Ball, BA, BED  
Family Studies Department Head  
Windsor, ON

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**The Ultimate Shopper** by Steve Winter. (1987). Toronto; Living Skill Books, 192 pages; paperback \$9.95.

*The Ultimate Shopper* purports to provide tips and techniques for saving money on practically anything one might buy from food to home furnishings, from VCRs to vitamins.

After taking seven pages to explain how and why one should read this book, the author spends eleven pages to say that buying in bulk can save time and money; thirteen more to note that prices can vary with the season and fifty-six pages to explain that exploring overlooked retailers can lead to finding unexpected bargains. Other less-than-startling tips include discounts for using cash rather than credit can sometimes be negotiated, telephone enquiries can save time, and cash register slips should be checked for errors.

The author writes in a glib, colloquial style alternately attempting to amuse, to inform, and to make snide comments about the typical shopper's skill and intelligence. It is doubtful that the average reader needs to wade through forty-nine pages to make a wise purchase at a garage sale. Nor would most readers be entertained by being addressed as snivelling little twerps. In addition, some statements such as aluminum's being suspected as a primary cause of Alzheimer's disease and elimination of all sugars including all fruits as the best treatment for acne are patently false.

The general reader will likely find this annoying little book neither humorous nor informative. The best advice that this reviewer can offer is to avoid spending any money on this publication — even at a garage sale or with a discount for cash.

Reviewed by:

Emily Reid, MA  
Faculty Lecturer  
Faculty of Education  
McGill University  
Montreal, PQ

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**I'm Hungry! Your Guide to Nutritious and Tasty Food for Young Children** by Eleanor Brownridge. (1987). Mississauga; Random House of Canada, 214 pages; Paperback \$12.95.

This book is written for parents and caregivers "interested in feeding young children". It provides a common sense approach to feeding children from newborn to six years old, although much of the advice is applicable to the older child and adult. Written by Eleanor Brownridge, a professional dietitian nutritionist, the book is presented in an informal, easy-to-read format. The text is interspersed with interesting antidotes, case studies, and recipes, many collected from colleagues.

Included in the text are the pros and cons of breastfeeding and bottlefeeding; the introduction of solid foods; and homemade versus commercial baby foods. Recommendations in this book for introducing solid foods and juices are slightly different than those made by Health and Welfare Canada. There are a few areas in the text where the reviewer felt that commercial baby foods and brandnames were promoted more than necessary.

Other chapters provide useful tips on dealing with the "flowering independence" of the two year old; keeping a sense of humour when "no becomes a favourite word" of the three year old; how to make food a learning experience; how to make nutritious and practical choices in the grocery store; and what to look for when it comes to food at daycare facilities.

There are also chapters on vegetarian eating, food allergies and intolerances,

and feeding the disabled child. The author provides some excellent references for further reading and recipes on these topics. The chapter on feeding the disabled child contains some terminology that may be above the layperson.

Many useful charts are included in the book. For example, a chart from Canada's Food Guide helps parents judge the nutritional adequacy of their child's intake, as well as their own. A helpful recipe index is included at the back of the book.

In summary, Eleanor Brownridge has used her expertise as a professional dietitian nutritionist and mother to present sound information and practical advice. This book is an excellent resource for parents interested in a healthy approach to feeding young children.

Reviewed by:

Jane Henderson, RPDt  
London, ON

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**Editor's Note** Due to the tremendous number of cookbooks being published, a sample of listings only, not reviews, will be given to draw these to your attention.

From General, Stoddart, and Musson Publishing; Don Mills, Ont.: **Cuisine Extraordinaire** by Marie Claire (May 1988) 224 pages; \$34.95.

**The St Lawrence Market Cookbook** by Anita Stewart. (April 1988) 160 pages; \$19.95.

**Food for Sport** by Karen Inze and Peter Brukner. (May 1988) 254 pages \$14.95.

**The Artful Cook** by Richard Cawley. (1988) 160 pages; \$24.95.

**The Microwave Kitchen** by Cecilia Norman. (1988) 128 pages; \$19.95.

**The New Cordon Bleu Cookbook** by Jeni Wright. (May 1988) 252 pages; \$28.95.

**Master Class for Creative Cooks** by Evelyn Rose and Sula Leon. (1988) 224 pages; \$39.00.

**Microwave Diet Cookery** by Marcia Cone and Thelma Snyder (April 1988) 300 pages; \$27.95.



Pat Malone

# On the Job

## *Profile of a Home Economist*

*Pat Malone*

**I**t has been said that home economics is a multi disciplinary field and I think my career and present activities reflect that statement.

As a fledgling secondary school teacher in the 1960s, 50 teaching periods a week came as a shock to the system. Moving from a regional school to an urban setting as head of the department was good preparation for the future. It was what one calls a growth experience.

Unfortunately, the concept of maternity leave was still a year or two away, and so like others of my generation, I temporarily retired. But I kept thinking that I could surely develop some elements that allowed me to look after my child as well as continue my career, while being in the home. My particular focus in home economics was clothing and textiles. So I began teaching classes in my home on how to design and sew with knit fabrics. I took additional training courses and began importing a line of patterns from the United States. As the demand grew, the next step was to set up programs for stores and organize a training

program for instructors. This led to being educational director for a knitting mill.

By now it was highly desirable to design my own line of patterns and incorporate my own company, Nifty-Knits Limited, in 1978. I was then able to design and produce a teaching program called the Knit Kit which incorporated consumer education with designing and sewing knits.

Part of the purpose of this descriptive background is to illustrate how things evolve very naturally without one's realizing or starting out with a conscious plan of setting up a small business.

Ironically, just at the time that the business was really moving, I became interested and involved in a totally different direction.

Being an active participant in my local professional association has always been most important to me. This is particularly true when one works on one's own, frequently in the isolation of the home. Since the home is the workplace, there is limited opportunity for sharing ideas with fellow colleagues. For me, my professional association provided this outlet. It also inadvertently provided me with a new career.

Home economists were being asked to become involved in twinning and international development. As chairman of the International Development Committee of Toronto Home Economics Association, I became actively

involved in our twinning with the Caribbean Association of Home Economists and resultant project to develop textbooks reflecting their culture.

Over the course of 5 years, this experience produced feelings of frustration, stimulation, and incredible satisfaction. The few, presently working in this area, realize how much home economists have to offer and how exciting is the challenge.

As with most experiences, one leads to another and opportunities appear and disappear. Involvement in international development has allowed me to meet and work with home economists from around the world. It has also allowed the opportunity to present our special brand of development to the World Bank in the form of a prototype for developing texts in a cooperative venture. This occurred in Washington when educational representatives from over 25 developing countries were brought together by the World Bank for two weeks to study textbook development. What was fascinating was to see the excitement engendered among the participants by the project as well as exclamations of "I didn't know home economics encompassed all of this".

Presently, I am doing a balancing act, being as flexible as possible, in order to continue both areas of interest. This is intentional as I am unwilling to give up either direction. It is difficult to split one's attention in two different directions, however it does ensure a freshness of approach each time. □

**Pat Malone** obtained a BA from University of Western Ontario, a home economics teaching certificate from Ontario College of Education, and an MEd with a focus on Comparative, International & Development Education from University of Toronto in 1985. She is presently president of Nifty-Knits Limited.

Pat is a past president of Toronto Home Economics Association and current VP Public Affairs for CHEA.

# Abstracts of Current Literature

## Family and Consumer Studies

### The presence of adult children: A source of stress for elderly couples' marriage?

Suitor, J. Jill, & Pillemer, Karl, (1987)  
*Journal of Marriage and the Family*, 49, 717-725.

There is a limited amount of information available about the effects that adult children, who live with their parents, have on their parents' marital relationship. With an increase in the number of adult children continuing to live with and those who return to their parents' homes to live, the purpose of the study was to examine the family relations in this situation. The study analyzes whether the adult child affects marital conflict, and under what conditions it affects this conflict.

Data was collected from 677 people, who were married and had at least one child, age 18 or older, living with them. The information was collected from telephone interviews. Health, age, and education were included as controls.

The marital structure changes at the launching stage, whether the child leaves or not. The child is no longer a minor, so the parents have less responsibility and the adult children will likely demand less time. The presence of an adult child had little effect on marital conflict, although this was contrary to expectations. The results show the factor affecting marital conflict in the parent-child conflict. This suggests that more emphasis may be needed to investigate the parent-child conflict, which influences other family relationships.

### Balancing the power in dating relationships

Grauerholz, Elizabeth, (1987)  
*Sex Roles*, 17(9/10), 563-571.

This study examines how perceived power in dating relationships is related to several social psychological processes, that are characteristic of intimate relationships. The study also explores how these factors affect the relationship and the perception of power.

The sample consisted of 328 unmarried college students, who were involved in a heterosexual dating relationship. It is suggested that factors such as trust, commitment, other-orientation, and dependency affect perceived egalitarianism. These factors are also thought to disguise or counteract the inequality in the relationship. It is possible that this perceived balance of power may encourage an enhancement in these factors. Individuals are more likely to treat their partners with trust, if they feel that each is an equal. In relationships where there is unequal power, it is likely that

they will not progress past the early stages of a relationship. Perceived power is thought to be related to dependency. The perceived power is more closely related to interpersonal values, such as commitment and trust, than comparative resources, which involve the partners comparing themselves in terms of attractiveness, income and popularity. Those individuals who perceived their relationship as egalitarian were unconcerned about finding someone else, who may be better for them. The findings show the importance of exploring the relationship between interpersonal values and power in dating relationships and to understand this power.

### Siblings in old age: Something special

Gold, Deborah T., (1987)  
*Canadian Journal on Aging*, 6(3), 199-215.

The lives of older people can be tremendously influenced by their siblings. This study investigates the relationship and feelings, that brothers and sisters share in late life.

The sample consisted of thirty men and thirty women, who were at least 65 years of age. The men and women were of middle or upper class and represented a wide variety of ethnic backgrounds. The respondents were interviewed individually in a relaxed setting, and were asked to describe their relationship with their siblings.

The results showed that most of the sample felt the need for increased contact and interaction with their siblings. Geographical distance did not lessen this desire, although they did wish the distances could be smaller. Reminiscence about shared pleasant experiences was one of their most frequent activities when they were together or corresponded. Many of these people felt a closer bond to their siblings than ever before and any previous conflicts seem to have been forgotten. Almost all the respondents felt that emotional support from their siblings was more important to them than financial support, except if the situation was critical.

The sibling relationship is one that can last a lifetime and the participants felt that in old age, it took on a new meaning for them.

### Adolescent response to the death of a parent

Gray, Ross E., (1987)  
*Journal of Youth and Adolescence*, 16(6), 511-525.

This research study considered the influence that various factors had on an adolescent, who suffered the loss of a parent. Some of the factors addressed were social support, personality type, relationship with the deceased, and surviving parent, religious beliefs, and suddenness of death.



The adolescents who participated had a parent die, while they were between the ages of 12 and 19, with no less than 6 months and no more than 5 years having gone by since the death. The participants were evenly divided between lower, middle, and upper classes. The researchers conducted interviews and psychological tests, and the youths were rated on the various factors. The results were measured by the Beck Depression Inventory.

A high informal social support was related to lower depression scores. The death was more difficult to deal with when the relationship with the surviving parent before the death was rated negatively and the death was sudden. This resulted in higher depression scores. Poor prior relations with the surviving parent also resulted in the adolescent having more physical problems such as head and stomach-aches. Those adolescents who were without religious beliefs had higher depression scores than those with these beliefs. It was revealed that it was more difficult to recover from a sudden death. Almost all participants felt that peer group support was of help to them.

### Supplementary Listings of Articles

**Instant Families: Divorced mothers marry never-married men.** Roberts, Thomas W., & Price, Sharon J. (1987) *Journal of Divorce*, 11(1), 71-92.

**A comparison of intimacy in first-married and remarried couples.** Larson, Jeffrey H., & Allgood, Scot M. (1987) *Journal of Family Issues*, 8(3), 319-331.

**Social development in infant twins: Peer and mother-child relationships.** Vandell, Deborah Lowe, Owen, Margaret Tresch, Wilson, Kathy Shores, & Henderson, V. Kay, (1988) *Child Development*, 59, 168-177.

**Kids on the street they have something to say: Survey of runaway and homeless youth.** Kufeldt, Kathleen, & Nimmo, Margaret, (1987) *Journal of Child Care*, 3(2), 53-61.

**Parental influence on adolescent drinking: Modeling, attitudes, or conflict?** Thompson, Kevin M., Wilsnack, Richard W., (1987) *Youth & Society*, 19(1), 22-43.

**Old and single in the city and in the country: Activities of the unmarried.** Keith, Pat M., & Nauta, André, (1988) *Family Relations*, 37(1), 79-83.

Reviewed by  
Linda Brefka  
4th year HEc student  
University of Windsor

### Clothing and Textiles Abstracts

#### Teacher's self-perceived competence to teach clothing construction to mainstreamed students.

Feather, B., Love, C., & Dillard, B. (1987)  
*Home Economics Research Journal*, 16(2), 127-135.

The purpose of this study was to assess high school economics teachers' self-perceived competence to teach clothing construction to physically handicapped students. Personal and educational experiences were identified as factors influencing their perception. Education was the first variable and was measured by four levels of academic achievement. Years of teaching experience served as a second variable and personal clothing construction activities the third. The last variable measured the frequency of college-level specialized educational courses completed.

A survey questionnaire was mailed to all high school home economics teachers in Missouri. Sixty percent (303) were returned. The sample represented all levels of education, teaching, and sewing experience. The 21 item questionnaire measured three areas of competency. These included: the ability to alter garments to specialized needs, the ability to design a garment for specialized needs, and the ability to modify construction processes to meet student's abilities.

Analysis of data indicated years of experience, personal clothing construction, and completion of specialized college courses affected the teachers' self-perception of competence. The amount of experience in clothing construction had the strongest impact on level of competence perceived.

#### Maternity career apparel and perceived job effectiveness.

Belleau, B., Miller, K. & Church, B. (1988)  
*Clothing and Textiles Research Journal*, 6(2), 30-36.

The purpose of this study was to determine if there was a relationship between maternity career apparel and perceived job effectiveness. A sample of 97 pregnant working women was drawn from prenatal classes at a hospital in a large metropolitan area. They answered a 41 item questionnaire developed by the researchers to measure perceived job effectiveness, career orientation (attitude towards occupation as a career versus a job), desired fashion apparel, and styles of apparel preferred at work. Data was analyzed using chi square univariate and multivariate tests, and Spearman rank order correlation.

In general, the results indicated perceived job effectiveness had a relationship to maternity career apparel. More specifically, significant differences among educational and career oriented groups for general fashion apparel were observed. There were no significant differences among demographic groups for apparel styles worn at work.

As a group, pregnant career women have different needs than career women in general, and as their numbers are increasing they should be considered more carefully by retailers and employers.

#### Perceptions of branded clothing by male consumers.

Behling, D., & Wilch, J. (1988)  
*Clothing and Textiles Research Journal*, 6(2), 43-47.

This paper studied the effect of brand names on men's perception of quality and price of slacks. Age, income, and socio-economic status were factors identified that influenced perception. A sample of sixty men, aged twenty to eighty, were recruited from social groups in a variety of urban, suburban, and rural churches in Ohio. Each subject was shown three pairs of slacks similar in appearance and quality but bearing different labels. The labels represented three different price levels; moderate, high, and designer labels. A questionnaire was developed to measure demographic information, socio-economic status, and to record the subject's evaluation of the three garments.

Results indicated that the designer and the high priced labels were not a meaningful symbol to the sample. The subjects assigned quality with moderate priced well known labels. It was also discovered that the subject's age and socio-economic status was not statistically significant for

perception of quality, but income was significant. The most important finding proved the subject's familiarity with a label affected his perception of quality; subjects familiar with a label perceived differences in quality, while those unfamiliar with the label perceived no difference. This study cautions against generalizing findings to a larger population, but does clearly prove that symbolic considerations can determine apparel selection.

#### **Performance of spliced yarn in warping and weaving.**

Kaushik, R., Hari, P., Sharma, I., & Sarkar, A. (1987). *Textile Research Institute*, 57(11), 670-672.

Splicing is a new technique of joining yarns. It has replaced the knot which was considered weak in processing. Earlier studies had indicated the weakness was affected by thick places, hairiness, and yarn strength. The purpose of this study was to compare the performance of wet and dry spliced yarns to knotted yarns during warping and weaving processes. The change in yarn diameter and hairiness in the spliced zone and the rate of yarn breakages were measured. Yarns were prepared from cotton, wool, polyester, viscose, and their blends on ring and open-end spinning systems. The yarn diameter and number of hairs were measured on a Projectina microscope. Yarn breakage was measured on warping machines and looms.

The results clearly indicated the superiority of spliced yarns over knotted yarns. The spliced zone had a lower diameter and hairiness count than the knotted zone. Yarn breakage was significantly reduced with spliced yarns compared to the knotted yarns. It was also observed wet splicing performed better than dry splicing.

#### **Supplementary listing of articles**

**Prediction of warp-breakage rate in weaving.** Aggarwal, S., & Subramanian (1988). *Textile Research Journal* 58(1) 11-22.

**The impact of vacuum extraction on the continuous dyeing of cotton with reactive dyes.** Fortin, R., & LeBlanc, M.A. (1988). *Textile Chemist and Colourist*, 20(1), 39-44.

**Consumer use of label information in ratings of clothing quality and clothing fashionability.** Davis, L. (1987). *Clothing and Textiles Research Journal*, 6(1), 8-15.

**Predicting consumer response to fashion apparel.** DeLong, M., Minshall, B., & Larnta, K. (1987). *Home Economics Research Journal*, 16(2), 150-160.

**Solvent pretreatments of wool and their effect on shrink-proofing and the rate of dye uptake.** Cafarelle, V., Cornell, H., & Rivett, D. (1988). *Journal of the Society of Dyers and Colourists*, 104, 25-32.

**Merino history in old wool.** Ryder, M. (1988). *Textile History*, 18(2), 117-133.

Reviewed by  
Sheri McBride  
MSc graduate student

#### **Foods and Nutrition Abstracts**

##### **The effects of caffeine on various body systems: A review.**

Leonard, T.K., Watson, R.R. and Mohs, M.E. (1987). *Journal of the American Dietetic Association*, 87, 1048-1053.

A review of the metabolism and physiological effects of caffeine is presented in this article. In adults, over 99% of

ingested caffeine is absorbed quickly with peak plasma levels reached within 15 to 45 minutes. The plasma half-life varies among individuals with a range of 2.5 to 7.5 hours. Caffeine clearance is decreased by liver disease, pregnancy, and oral contraceptive use and is increased by smoking. Caffeine is known to impose pharmacological actions. A large number of symptoms related to acute or chronic high intakes and withdrawal are outlined.

The lack of enzymes needed to metabolize caffeine in the fetus and newborn result in a plasma half-life of 32 to 149 hours. The adult pattern of caffeine elimination does not develop until about 7 to 9 months of age. Many cardiovascular effects of caffeine were noted. It appears that caffeine increases peripheral vascular resistance, resulting in greater stroke work for the heart and an increased blood pressure. As well, caffeine may affect the rate of calcium exchange, which in turn affects the contractility of the heart. Effects of caffeine on the central nervous system, gastrointestinal, renal, and pulmonary systems were outlined.

Consumption of more than 6 cups of coffee per day has been associated with a 2½ times increase in the risk of myocardial infarction in women. A coffee intake greater than 2½ to 3 cups daily has been correlated with increased plasma lipid levels and is, therefore, thought to be atherogenic. As well, both animal and human studies have associated high caffeine intakes with increased fetal loss and an increased frequency of congenital malformations. These findings, along with others, have led to the recommendation that caffeine be consumed only in moderate quantities in adults and sparingly or not at all in pregnant women. The article concluded with an overview of areas to be explored in future research.

##### **Developing a food guidance system to implement the dietary guidelines.**

Cronin, F.J., Shaw, A.M., Krebs-Smith, S.M., Marsland, P.M. and Light, L. (1987). *Journal of Nutrition Education*, 19, 281-302.

This article describes a food guidance system developed by the Human Nutrition Information Service for the American Red Cross nutrition course "Better Eating for Better Health". This system suggests food for a total diet rather than a foundation diet. It was designed to be used to make food selections that meet objectives for both nutrient adequacy and moderation of those food components related to risk of chronic disease. A framework of food groups, arranged into a Food Wheel, provides the core around which other nutrition information is organized.

The first section of this article described the rationale behind and the development of this food guidance system. Nutritional goals were expressed as a series of specific objectives by which the system could be evaluated. Objectives had to be realistic in terms of the current food supply and consumption patterns and had to integrate the different diet/health concerns. Specific objectives dealt with food energy, protein, vitamins, minerals, total fat, fatty acids, sugar, and caloric sweeteners, alcohol, cholesterol, and sodium. The second section detailed the evaluation of the ability of the food guidance system to meet the established objectives. Expected levels of energy, nutrients, and other food constituents are presented for diets selected according to the system recommendations.

## Weight-control approaches: A review by the California Dietetic Association.

Rock, C.L. and Coulston, A.M. (1988)  
*Journal of the American Dietetic Association*, 88, 44-48.

This article presents a review of current scientific literature on weight control methods and proposes criteria for health-safety evaluation of dietary approaches.

The review of a variety of diet approaches to weight control covers the background theory, acceptability, complications, and outcome. Approaches reviewed included selected macronutrient restrictions, novelty diets, very-low-energy diets, formula diets, and balanced diets with modest caloric restriction. Also covered are the use of surgery, drugs, exercise, and behavior modification in weight control programs.

The authors stated that integrated weight management approaches that include moderate diet modifications, an exercise program, and a behavioral approach involve minimal risk and are likely to produce the most favorable long-term outcomes. The authors concluded that a weight reduction diet should (a) satisfy all nutrient needs except energy, (b) meet individual tastes and habits, (c) minimize hunger and fatigue, (d) be readily obtainable and socially acceptable, (e) favor the establishment of a changed eating pattern, and (f) be conducive to improvement of overall health. Characteristics of diet approaches associated with poor outcome include (a) very low-energy diets, which promote rapid weight loss, (b) extremes of macronutrient restriction, and (c) reliance on formula diets or special products.

## Abnormal eating attitudes: Prevalence at a Canadian university.

Marciano, D.A., McSherry, J.A. and Kraus, A.S. (1988)  
*Canadian Family Physician*, 34, 75-79.

This study was undertaken to determine the prevalence of eating disorders among female students at Queen's University. Questionnaires were mailed to 1982 students with a response rate of 50.6%. Of the 990 respondents, 659 were female on-campus residence students, 184 were female students living off-campus and 147 were male students living off-campus. The mean age of respondents was 20.4 years with 70.6% being in their first year of university. Respondents completed two questionnaires: one to provide demographic data, and the EAT-26, which provided information regarding eating attitudes.

The mean score for the EAT-26 was 9.3. Normal scores were found for 85.2% of respondents while 14.8% had high scores of 20 or more. In both groups of female students, 16.8% had high scores while 2.7% of male students had such scores. This sex difference is a common finding in such studies. The authors explained it by noting that men tend to emphasize muscle development and women emphasize slimness.

Of the 147 high-scoring respondents, 131 identified themselves. These students received a personal letter describing the implications of high scores on the EAT-26 and recommending further individual assessment. Of the 117 high-scoring respondents that could be contacted, 46(39.3%) replied to a follow-up survey six months after initiation of the original study. Of these respondents 25(54%) had sought professional help. Of the 16 students who sought assistance from the Student Health Service, 10 were diagnosed with bulimia and 3 with anorexia nervosa. The remaining 3 were thought to have high scores due to dieting behavior without disordered attitude.

This study indicated that 17.4% of first year female undergraduates at Queen's University had serious concerns

about eating, body shape, and weight. Also, the study found that 5% of first year female students at Queen's had already experienced an eating disorder.

## Comparison of self-concept of nonobese and obese university junior female nursing students.

Stein, R.F. (1987)  
*Adolescence*, 22, 77-90.

The purpose of this study was to provide information about the total self-concept of obese students (15% or more above ideal body weight) as compared to nonobese students in a baccalaureate junior nursing class. Ages of the 86 students ranged from 18 to 25 with over half of the students being 20 to 21 years old. Only 14% were married. While 52% of the students considered themselves to be overweight, only 33% were actually overweight. Childhood onset of obesity occurred in 17% of the students, with 23% having an onset in adolescence. Thirty percent were dieting at the time of the study indicating a possible sensitivity to others' feelings about an individual's body image. Data was gathered through the administration of the Tennessee Self Concept Scale (TSCS). This self-administered scale consists of 100 self-descriptive statements.

No relationships were found between self-concept and either age of onset of obesity or social class. Analysis of TSCS scores indicated many significant differences in self-concept of obese individuals when compared to the nonobese group. Obese subjects lacked the usual defenses for maintaining self-esteem and had lower self-esteem. Results reflected little integration of the various selves and lower esteem regarding physical appearance, sexuality, and state of health in obese students. There were also indications of low esteem and feelings of inadequacy, a sense of worthlessness and feelings of inferiority within their family. As well, obese subjects had elevated neurosis scores.

Students who considered themselves obese showed many similarities to the actual-obese group. They, too, were lacking in the usual defenses for maintenance of self-esteem, had lower self-esteem in the physical self and had poorer attitudes about the self as a family member. Unlike the actual-obese group, there was a poorer sense of self-worth or feeling of adequacy as a person and a diminished sense of social self-esteem. Also, those who considered themselves overweight had greater indications of maladjustment embedded in the personality itself and a greater sensitivity to adverse social attitudes towards obesity.

## Supplementary listing of articles

**Dietary fiber and reduced ischemic heart disease mortality rates in men and women: A 12-year prospective study.** Khaw, K. and Barrett-Conner, E. (1987). *American Journal of Epidemiology*, 126, 1093-1102.

**Do men and women differ in emotional and ego involvement with food?** Crandall, C.S. (1987). *Journal of Nutrition Education*, 19, 229-235.

**Nutrition knowledge and misconceptions of university students: 1971 vs. 1984.** Chery, A., Sabry, J.H. and Woolcott, D.M. (1987). *Journal of Nutrition Education*, 19, 237-241.

**Body weight and sensory preferences for sugar and fat.** Drewnowski, A. (1987). *Canadian Institute of Food Science and Technology Journal*, 20, 327-330.

**The role of xylitol in the prevention of dental caries.** MacDonald, H.B. (1988). *Journal of the Canadian Dietetic Association*, 49, 48-50.

**Premenstrual syndrome: Theories and evidence.** Casey, V. and Dwyer, J.T. (1987). *Nutrition Today*, 22, 4-12.

Submitted by  
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# New Developments

Compiled by Ann Scott

## ... In Ideas

### Table Foods Too Salty for Infants

The Infant Nutrition Institute suggests that early exposure to salted foods may lead to an acquired eating pattern which may increase the risk of hypertension for individuals who are salt-sensitive.

In a survey of 306 four to seven month old infants in the United States, those fed table foods consumed three times as much sodium as infants who were fed commercial baby foods.

In both Canada and the United States, there has been a strong campaign toward not feeding infants salted foods during their first year of life. It is suggested that the four to seven month period may be a critical time in developing the acquired preference for salty foods. Newborns and infants up to the age of four months are indifferent to the taste of salt but after that period, infants are able to distinguish the salt taste and even tend to prefer saltier foods.

The Infant Nutrition Institute and the Canadian Pediatric Society urge parents and infant caregivers to avoid highly salted foods throughout the first year. After infancy, salt intake should continue to be moderate in order to establish a lifetime habit of enjoying lightly salted foods and thus reduce the risk of developing hypertension.

Source: *In-Touch*, 6(1). (1987, Fall).

### Olympic Foods Analyzed

For the first time at an Olympic competition, athletes and their coaches were informed about the nutritional composition of all the food being served in the Olympic Villages and at the competition sites when they arrived in Calgary.

Nutrition for athletes has become a very specialized science. Competitors must balance above-average energy requirements with a need to maintain as lean and as fit a body as possible. Tied in with energy need is a greater than normal requirement for certain vitamins and minerals; particularly iron, vitamins A, B6, B12, and folate. Inadequate intakes of these nutrients could impair competitive performance.

The computerized nutritional analysis data base was developed by Info Access Inc., a Toronto computerized information services firm, using The CBORD Group software. In preparing the data base, Info Access dietitian used information from the Canadian nutrient file which incorporated analyses of uniquely Canadian foods as well as the food ingredients of official corporate suppliers to the Games.

For more information on the computerized nutrition service: Contact Sandra Matheson or Sharyn Joliat, Info Access Inc., (416) 673-6428.

### Diet and the Athlete

Recent surveys of athletes show that despite the importance of proper nutrition in achieving peak performance in sports, many athletes consume inadequate diets. Dietary deficiencies include calcium, iron, folacin, B6, and B12. Athletes concerned with weight control are particularly at risk due to low calorie intakes. There is evidence that nutrient deficiencies can impede athletic progress and reduce maximal performance capacity.

In general, athletes are encouraged to follow a balanced diet according to Canada's Food Guide with relatively high levels of carbohydrates to ensure repletion of muscle glycogen stores. Many athletes require extra fluids and higher calorie intakes to cover fluid loss and energy demands during training and competition.

If an athlete consumes a variety of foods from each food group in amounts providing adequate calories to maintain an appropriate body weight, there is little chance of incurring nutrient deficiencies. However, athletes in sports where weight control is an important factor require careful monitoring of restricted caloric diets to prevent dietary deficiencies.

Although many athletes have avoided meat in an attempt to reduce fat intake, it is suggested that a moderate consumption of meat offers several advantages to athletes. Meat provides key nutrients at a relatively low calorie cost and is ideal for weight loss programs due to its high nutrient density and satiety value.

Source: Sawchuk, Lynne (Winter, 1987). Meat and the Athlete. *Meat Probe*, 5(1).

### Shopping for a Travel Consultant

An experienced travel agent can save you time and money by organizing a travel package to meet your needs.

However, Betty Palik suggests that finding a qualified travel consultant is often a more difficult task than planning the trip yourself. This is partly due to the fact that there are no legislated standards governing the travel industry nationwide. Only the provinces of Quebec, Ontario, and British Columbia require agents, travel wholesalers, and tour operators to be registered and licensed. In the unregulated provinces, anyone could call himself or herself a travel consultant with little or no professional training.

Despite these difficulties, Palik suggests that it is possible to track down a qualified travel consultant by asking friends and colleagues for recommendations and visiting neighborhood travel agencies. One sign of professionalism is the logo of the Alliance of Canadian Travel Associations (ACTA), a trade group of 3,000 agencies, tour operators, wholesalers and service suppliers who subscribe to a code of ethics. Other considerations include the experience, licences, and certificates of individual agents such as the designation of Certified Travel Counsellor (CTC) given by



the Canadian Institutes of Travel Counsellors (CITC). Communication skills and personality of the agents will also add to customer satisfaction. A good agent will recommend several options and will point out inconveniences as well as the advantages of a location and any details related to passports, visa, health requirements and extra charges. Finally, a good travel agent will call after the trip to check on any problems.

**Source:** Palik, Betty. (1988). *The Traveller's Guide. Your Money*, 4(2).

### **Saving in the Supermarket**

From the arrangement of shelves to the arrangement of packages on the shelves to the packages themselves, the supermarket is designed to sell more than food products.

The manufacturers and supermarket owners base their marketing strategies on the fact that two-thirds of all buying decisions are not made until the shopper is actually in the store.

By resisting brand name promotions, *Consumer Reports* found that the weekly grocery bill could be cut by nearly one-half.

In order to defend yourself against the selling techniques used in the supermarket, *Consumer Reports* suggests that you prepare a detailed shopping list and stick to it and understand the supermarket in its role as a selling machine.

**Source:** Staff. (1988, March). How to save \$2500 a year in the supermarket. *Consumer Reports*, 53(3).

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## **... In Trends**

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### **Study on Low-Income Single Mothers**

The Therese F. Casgrain Foundation has announced that Dr. Carolyn A. Gorlick, a sociologist at King's College, University of Western Ontario, was the 1987-88 recipient of the second annual Fellowship.

Dr. Gorlick will use the \$25,000 grant for a long-term study on the feminization of poverty, entitled "The Impact of Economic Stress and Social Support on Low-Income Single Mothers".

Gorlick is studying a group of single mothers over a three-year period following separation, in order to determine how social networks and social support ease financial strain and help single mothers get out of the social welfare trap by seeking employment and education. She hopes that the results of the study will have an impact on government social assistance policies. Gorlick comments, "It is absolutely critical that we as a society find better ways to deal with this growing social problem."

**For further information:** Contact Carolyn A. Gorlick, King's College, University of Western Ontario, (519) 433-3491.

### **Grocery Attitudes of Canadians**

A survey report released by the Grocery Products Manufacturers of Canada has pinpointed trends and shifts in consumer attitudes related to grocery shopping.

The results of the study showed that 9 out of 10 shoppers in Canada are female and that 52% of the consumers surveyed own a microwave oven and look for microwave cooking instructions on food product packages.

It was determined that shopping satisfaction is related to product freshness, access to favorite brand names and friendly service. Convenience factors such as hours of business, fast checkout and proximity to home or work were found to be less important.

GPMC plans future surveys to monitor shifts in shopping attitudes.

**To obtain single copies of the results:** Write to Shelagh D. Kerr, Director Scientific Affairs, Grocery Products Manufacturers of Canada, 1185 Eglinton Avenue East, Suite 101, Don Mills, Ontario.

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## **... In Products and Services**

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### **Anti-Plaque Toothpaste**

An anti-plaque toothpaste and oral rinse is now available in Canada over the counter. "Viadent" contains the active ingredient, sanguinarine, which is a natural compound that has recently been proven to help reduce plaque and inhibit its return.

Studies have shown that Viadent chemically combines with plaque where it inhibits growth of 98% of the bacterial isolates known to be related to periodontal disease. This action continues for four hours or more, helping to prevent gingivitis and eliminating bad breath.

The Viadent products will be available in most pharmacies in Canada.

**For further information:** Contact Jane Hope (416) 593-5180 or Eleanor Brownridge (519) 657-2258.

### **Pasta Information**

The concept of pasta has changed during the past few years with an increasing range of shapes, colors, and flavors and a wide range of exciting new recipes.

In response to this new trend, the Pasta Information Bureau is a valuable resource for food and health professionals providing up-to-date information in pasta buying, storage, preparation, nutrition, and industry facts.

The brochure, *The Pasta Lightstyle*, is now available which includes recipes and pasta news.

**For information:** Call or write Anne Hanson or Jane Langdon, Pasta Information Bureau, 20 Holly Street, Suite 402, Toronto, Ontario M4S 3B1, (416) 480-0533.

### **Food Photography**

G. Biss Photography, the Toronto photo studio specializing in food, beverage and table-top photography, has relocated to new facilities at 307 Bering Avenue.

The state of the art facilities include over 6,700 square feet of studio space, kitchens, and client rooms.

**For further information:** Contact George Biss, 307 Bering Avenue, Toronto, Ontario M8Z 3A5, (416) 239-1637.

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## **... In Publications**

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### **Forum on Post-Secondary Education**

The official proceedings of the National Forum on Post-Secondary Education held in October of 1987 in Saskatoon are now available.

Publications include the Proceedings, Forum Papers, Workshop Reports, Bibliography of Display Documents, and the Chairman's Report. Audio and video cassettes covering various portions of the Forum program are also available.

**For general information:** Contact Jeffrey Holmes, National Forum Secretariat, 1204-275 Slater Street, Ottawa, Ontario K1P 5H9, (613) 236-2434.

### Canadian Nutrient File 1987

A condensed version of the *Canadian Nutrient File 1987* in English and French is now available on 9 track, 1600 BPI tape (\$60.00), a mini data cartridge (\$37.00) or two IBM PC compatible floppy disks (\$12.50).

The file, containing data on 672 foods with values for energy and 18 nutrients, may be sorted alphabetically or in food groups. No software program is available but a description of the format and content is included.

**To order:** Bureau of Nutritional Sciences, Food Directorate, Health Protection Branch, Health and Welfare Canada, Ottawa, Ontario K1A 0L2, (613) 957-0928.

### Nutrient Value of Some Common Foods — Revised

The *Nutrient Value of Some Common Foods* has been revised to include up-to-date nutrient information and additional foods available in the marketplace.

Along with 95 new food items, the 1987 edition includes values for polyunsaturated fatty acids and dietary fibre and greater precision in the weight of foods expressed in portion sizes.

**Available from:** Health and Welfare Canada, Ottawa, Ontario K1A 0L2, (613) 957-0928.

### Harrowsmith Cookbook

The *Harrowsmith Cookbook Volume III* is now available from Camden House Publishing and Firefly Books. Recipe contributions were sent in by Harrowsmith's readers from Canada and the United States. These were then tested and selected for originality and versatility.

The paperback sells for \$17.95.

**Source:** News Release. Firefly Books Ltd., 3520 Pharmacy Avenue, Unit 1C, Scarborough, Ontario M1W 2T8.

### Up-Coming Cookbooks

Three new cookbooks will be available from McGraw-Hill Ryerson in the next few months; *Microwave Cooking with Style* by Barb Holland and Roxanne McQuilkin, *The Ultimate Salad Dressing Book* by Claire Stancer and *Basics and Beyond* by Bonnie MacDonald and Marie O'Connell.

**Source:** McGraw-Hill Ryerson Limited, 330 Progress Avenue, Scarborough, Ontario M1P 2Z5, (416) 293-1911.

### Apparel Construction Workbook

*Experimental Apparel Construction*, written by Anita A. Stamper, Sue Humphries Sharp and Linda B. Donnell, consists of eleven apparel construction exercises designed to develop information skills.

This laboratory manual includes lesson sheets, supply/equipment lists, complete patterns, research questions, and detailed construction guides. Through the lessons, students examine the importance of sequence, fabric utilization, apparel structure, and comparative techniques.

*Experimental Apparel Construction* can be used independently or as a companion to the *Evaluating Apparel Quality* text. This 220-page soft-covered manual is priced at \$13.50 (American) with a 20% educational discount.

**To order:** Fairchild Books, 7 E. 12th Street, New York, N.Y. 10003, (212) 741-5814.

### Fashion Programs

Fairchild Publishing offers a four-program 1987-88 Women's Wear Daily International Collection Series containing 98 (35mm) color slides.

This series includes European Ready-to-Wear Fall/Winter 87/88 and Spring/Summer 88 and American Ready-to-Wear Fall/Winter 87/88 and Spring/Summer 88 slide programs. Each program comes with a printed commentary and a *Trends and Highlights Report*. The entire collection sells for \$325 (regular price) or \$275 (educational discount) in American funds. The programs are also available separately at individual prices.

**To order:** Fairchild Visuals, 7 E. 12th Street, New York, N.Y. 10003, (212) 741-5814.

## 1989 Ruth Binnie Scholarship Bourse Ruth Binnie

**T**wo awards of \$3,500 for full-time graduate study, proportionate sums for part-time study. This scholarship was established through the generosity of the late Ruth Binnie, Halifax, to promote the quality of home economics education in Canada.

For a graduate in home economics or home economics education, holder of a professional teaching certificate, who is a Canadian citizen or landed immigrant. First consideration will be given to applicants proceeding towards a master's degree in education on a full-time basis. Second consideration will go to part-time students. Third consideration will go to PhD applicants planning to return to university teaching in home economics education. The candidate must have a high commitment to the teaching profession and home economics education. The award will be based on scholarship, personal qualities, contribution to home economics education in junior or senior high school, and potential in the education field.

To be eligible, applicants must be members of CHEA and the application must be **postmarked no later than October 31, 1988**. Previous CHEA scholarship winners are eligible to apply provided they continue to be enrolled in graduate study.

### Application forms are available from:

Canadian Home Economics Association  
901-151 Slater Street  
Ottawa, ON K1P 5H3

**D**eux bourses de 3 500 \$ chacune pour des études de 2<sup>e</sup> cycle à plein temps, bourses proportionnelles pour un temps partiel. Cette bourse a été créée grâce à la générosité de feu Ruth Binnie, de Halifax, afin de promouvoir la qualité de l'enseignement de l'économie familiale au Canada.

Elle s'adresse à une diplômée en économie familiale ou en enseignement de cette discipline qui possède un certificat professionnel d'enseignement est citoyenne canadienne ou immigrante reçue. La préférence ira d'abord à des candidates qui préparent une maîtrise en éducation à plein temps, ensuite à des étudiantes à temps partiel, la somme étant dans ce cas calculée au prorata. On évaluera enfin le dossier des candidates à un doctorat qui projettent de réintégrer l'université pour donner des cours en enseignement de l'économie familiale. La candidate doit s'intéresser activement à l'enseignement et à la formation en économie familiale. Les bourses seront attribuées en fonction des résultats académiques, des qualités personnelles, des contributions faites à l'enseignement de l'économie familiale dans les écoles secondaires de premier et de second cycle et de ce que la candidate peut apporter dans le domaine de l'enseignement.

Les candidates doivent être membres de l'ACEF. Pour être admissibles, les demandes dûment remplies **doivent être envoyées au plus tard le 31 octobre 1988** le cachet de la poste faisant foi. Les candidates ayant déjà bénéficié d'une bourse de l'ACEF sont éligibles à une bourse 1986 si elles poursuivent des études de second cycle.

### Pour les formules de candidature, s'adresser à

L'Association canadienne d'économie familiale  
151, rue Slater, suite 901  
Ottawa, ON K1P 5H3



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